

# The Mining Journal

## RAILWAY AND COMMERCIAL GAZETTE

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

No. 1751.—Vol. XXXIX.

LONDON, SATURDAY, MARCH 13, 1869.

(WITH SUPPLEMENT) (STAMPED .. SIXPENCE, UNSTAMPED .. FIVEPENCE)

**THE MINING EXCHANGE, LONDON,**  
Is MANAGED by a COMMITTEE annually elected by the Members, and its RULES and REGULATIONS are SIMILAR to THOSE of the STOCK EXCHANGE.  
The Members do not advertise Mining Shares at fixed prices, being prohibited from so doing by the Rules of the Institution.  
London, March 12, 1869.

**MR. JAMES CROFTS, STOCK AND SHAREBROKER,**  
No. 1, FINCH LANE, CORNHILL.  
(Established 1842.)

Mr. Crofts transacts business in the way of PURCHASE or SALE of every description of stocks, but particularly BRITISH MINES, at net prices. All orders meet with the utmost punctuality, and advice given as to the nature and eligibility of INVESTMENTS when required.

The continued rise in tin is creating an immense demand for shares in good tin mines. The advance of the last two weeks is 14 $\frac{1}{2}$  per cent, and the next rise is expected to be considerable. At the GREAT ROYALTON TIN MINE (Rochester, Cornwall), in 4000 shares, 4 tons of tin will be raised per month, at a total cost of £30 per ton. Black tin is now £80, which will give a profit of £50 on every ton raised. The shares at present are 10s., but they will shortly rise to at least double this price. The mine is situated at the head of the celebrated Goss Moors, from which millions worth of tin have been raised.

FRIDAY, 3 P.M.—News has just arrived from Capt. Parkyn, the agent of Great Royalton, who states that—“Another lode has been discovered further north in the sett, 6 feet wide, containing rich work for tin. This will enhance the value of the property considerably.”

**MR. JOHN BUMPUS, 44, THREADNEEDLE STREET,**

has FOR SALE the following shares, free of commission:—  
50 Anglo-Brazilian, 10s. 6d. 15 Penhall, £5 $\frac{1}{2}$ .  
25 Brynpostig, 3s. 9d. 50 Great Lacey, £19 $\frac{1}{2}$ . 50 Royalton, 28s.  
15 Chiverton, £4 $\frac{1}{2}$ . 15 Gt. No. Lacey, 3s. 25 So. Condurrow, 25s. 6d.  
50 Chontales, 2s. 8d. 10 Great Vor, £14 $\frac{1}{2}$ . 5 Stray Park, £7 $\frac{1}{2}$ .  
5 Cargill, £18 $\frac{1}{2}$ . 5 Herodsfoot, £4 $\frac{1}{2}$ . 100 Taquaril, 11s. 9d.  
5 Drake Walls, 21s. 50 Nth. Crofty, 21s. 9d. 5 Tincroft, £18 $\frac{1}{2}$ .  
50 Don Pedro, £4 16s. 20 New Lovell, £2 18s. 9d. 1 West Seton, £20 $\frac{1}{2}$ .  
100 E. Car. Brea, 8s. 6d. 25 No. Treskerby, 17s. 2 W. Chiverton, £52 $\frac{1}{2}$ .  
10 East Caradon, £28 $\frac{1}{2}$ . 10 North Levant, £11 $\frac{1}{2}$ . 50 W. Drake Walls, 7s. 6d.  
25 E. Grenville, £4 11s. 3d. 15 Prince of Wales, 22s. 15 Wh. Grenville, £23 $\frac{1}{2}$ .  
15 East Lovell, £9 8s. 9d. 25 Pestarena, 25s. 20 Wheal Uny, £37 $\frac{1}{2}$ .  
100 Frontino, 14s. 30 Port Phillip, £1 18s. 9d.  
10 Frank Mills, £37 $\frac{1}{2}$ . BUYER of West Godolphin.

**MR. WILIAM WARD,**  
STOCK AND SHAREDEALER,  
No. 29, THREADNEEDLE STREET, LONDON, E.C.

**MESSRS. WILSON, WARD, AND CO.,**  
STOCK AND SHAREDEALERS,  
16, UNION COURT, OLD BROAD STREET, LONDON, E.C.

**MR. THOMAS SPARGO, STOCK AND SHAREDEALER,**  
224 & 225, GRESHAM HOUSE, OLD BROAD STREET, LONDON, E.C.

**JOHN RISLEY, (SWORN) STOCK AND SHAREBROKER,**  
48, THREADNEEDLE STREET, LONDON, E.C.  
Bankers: London and Westminster, Lombury.

**MR. S. GOMPERS, JUN., STOCK AND SHAREDEALER,**  
3, CROWN COURT, THREEDEEDLE STREET, LONDON, E.C.  
Mr. GOMPERS strongly advises the purchase of East Caradon shares.

**MR. THOMAS THOMPSON, MINING OFFICES,**  
12, OLD JEWRY CHAMBERS, LONDON, E.C.

**MR. WILLIAM SEWARD, STOCK AND MINING SHAREBROKER,**  
19, THROGMORTON STREET, LONDON, E.C.  
Every description of shares BOUGHT and SOLD at the best market prices.

**MR. J. B. REYNOLDS, STOCK AND SHAREDEALER,**  
ETHELBURGA HOUSE, BISHOPSGATE STREET WITHIN, E.C.  
Established Eleven Years.  
Bankers: City Bank, London, E.C.

**MR. JAMES HUME, STOCK AND SHAREDEALER,**  
74, OLD BROAD STREET, LONDON, E.C.

Has BUSINESS in—  
5 W. Caradon, £52 $\frac{1}{2}$ . 20 Uny, £37 $\frac{1}{2}$ . 5 Mary Ann, £21.  
20 Chiverton, £28 $\frac{1}{2}$ . 10 Frank Mills, £37 $\frac{1}{2}$ . 5 Tincroft Consols.  
20 East Caradon, £28 $\frac{1}{2}$ . 50 Chontales, £13 $\frac{1}{2}$ . 50 Mary Florence.  
20 Great Vor, £14 $\frac{1}{2}$ . 50 Taquaril, 4s. 6d. pm. 50 Drake Walls, 21s.  
50 Prince of Wales, 21s. 6d. 50 Don Pedro, £37 $\frac{1}{2}$  pm. 50 W. Drake Walls.  
50 No. Treskerby, 17s. 50 Crebhor, 12s. 20 Hingston Down, 8s.  
20 East Grenville, £4 $\frac{1}{2}$ . 50 So. Condurrow, 26s. 50 New Lovell, £23 $\frac{1}{2}$ .  
WHEAL MARY FLORENCE.—Mr. H. calls attention to the prospects of this mine. See report. At the present low prices they should be bought.  
Bankers: The London Joint-Stock Bank.

**MR. J. H. COCK, STOCK AND MINING SHAREDEALER,**  
74, OLD BROAD STREET, LONDON, E.C.  
Fifteen years' experience in Cornwall and London.  
SPECIAL BUSINESS in Botallack, Boscan, South Condurrow, North Treskerby, Margaret, Rosewall Hill, and New Lovell.  
J. H. C. should be consulted on any of the above mines at once.

**MR. E. J. BARTLETT, STOCK AND SHAREDEALER,**  
No. 30, GREAT ST. HELEN'S, LONDON, E.C., has SPECIAL BUSINESS in West Godolphin, Summer Hill, North Pool, South Condurrow, West Merlyn, New Lovell, Great South Chiverton, South Darren, North Levant, West Great Work, Bryn Gwlog, East Rosewarne, East Lovell, Minera Boundary, Frank Mills, and West Caradon.

Mr. E. J. B. begs to direct special attention to the SOUTH MERLYN MINE, shares in which are selling at very low prices, taking into consideration the discoveries already made. This mine is likely to become very valuable and prove a permanent dividend property.

Holders of Stock difficult of sale in the open market may find purchasers on application to the above.

**MR. C. A. POWELL, STOCK AND SHAREDEALER,**  
No. 1, PINNER'S COURT, OLD BROAD STREET, LONDON, E.C.  
Business transacted in every description of negotiable securities at market prices.

BUYER or SELLER of \*Frontino, \*Chontales, \*North Treskerby, \*St. John del Rey, \*Pestarena, Great Vor, \*Wheal Uny, Mineral Bottom, and Prince of Wales.  
Mr. POWELL is in a position to advise as to those mines marked \*, and should be consulted forthwith.  
Business transacted at net prices. References exchanged.  
Bankers: City Bank, Finch-lane.

**MR. WILLIAM MARLBOROUGH, 1, GREAT ST. HELEN'S,**  
BISHOPSGATE STREET, LONDON, E.C. (Established 14 years), has FOR SALE the FOLLOWING SHARES, at net prices:—

50 Anglo-Brazilian, 10s.	50 Imperial Mining Co.	30 West Godolphin.
10 Brynpostig, 3s.	50 Marke Valley, £8 18 9	1 West Chiverton, £22 $\frac{1}{2}$
20 Chiverton, £37 $\frac{1}{2}$	30 Mineral Bottom, £4 $\frac{1}{2}$	50 W. Drake Walls, 7s.
10 Chiv. Moor, £4 18s. 9d.	20 New Lovell, £2 11s. 3d.	1 West Franches, £48.
50 Drake Walls, 19s. 6d.	25 North Downs, 10s. 9d.	20 West Caradon, £23 9
5 East Caradon, £28 4s. 9	20 North Crofty, 20s. 9d.	(ex call).
5 East Lovell, £8 18s. 9d.	70 Prince of Wales, 19s. 9	25 Wt. Grenville, 48s. 9d.
20 E. Grenville, £4 $\frac{1}{2}$	10 Rose and Chiverton	2 Wt. Mary Ann, £19 $\frac{1}{2}$
5 Great Lacey, £19 7s. 6	(offer wanted).	5 Wt. Trelawny, £37 $\frac{1}{2}$
50 Gt. No. Lacey, 32s. 3d.	20 So. Condurrow, 24s. 9d.	20 Wheal Uny, £3 18s. 9d.
5 Great Vor, £14 $\frac{1}{2}$	5 Stray Park, £7 $\frac{1}{2}$	25 Wt. Crebhor, 11s. 6d.
10 Gunnis Lake (Clitter)	7 Tincroft, £18 $\frac{1}{2}$	50 Yudanamutana, £2
2s. 6d.	50 Tamar Valley	

SOUTH MERLYN.—The agent reports that the 40 fm. level is now worth £9 10s. per fm., and steadily improving. Intending purchasers should apply without delay, as only a limited number of shares can be obtained.

**MR. GEORGE BUDGE, STOCK AND SHAREDEALER,**  
No. 4, ROYAL EXCHANGE BUILDINGS, LONDON, E.C. (Established 20 years), is a SELLER at net prices of:—

2 Miners, £175; 2 Wheal Bassett, £74 $\frac{1}{2}$ ; 50 New Lovell, £23 $\frac{1}{2}$ ; 2 Providence, £39 $\frac{1}{2}$ ; 150 East New Lovell, 8s.; 50 West Drake Walls, 7s. 9d.; 10 East Wheal Lovell, £9 $\frac{1}{2}$ ; 50 Alamillos; 100 Lovell Consols; 100 Gwydyr Park, 4s. 6d.; 50 North Jane; 100 General Brazilian, 2s. 6d. prem.; 100 Tamar Valley, 12s.; 10 Cwm Darren; 50 Wheal Mary Florence, 19s. 9d.  
SPECIAL BUSINESS in Tin Valley shares.

**CORNISH AND FOREIGN MINES—**

TO SHAREHOLDERS AND OTHERS.

PETER WATSON'S "WEEKLY MINING CIRCULAR AND SHARE LIST—SYNOPSIS OF CORNISH AND DEVON MINES," of Friday, March 12, No. 523, Vol. XI., price 6d. each copy, forwarded on application, contains information on the following mines:—

Great Wheal Vor.	West Great Work.	Dolcoath.
Great Western.	South Great Work.	South Caradon.
Wheal Jane.	New Lovell.	West Seton.
Providence.	East New Lovell.	Stray Park.
North Crofty.	East Bassett.	Wheal Buller.
Wheal Walls.	Devon Great Consols.	West Chiverton.
West Drake Walls.	Trumpet Consols.	West Caradon.
Great South Tolgus.	East Lovell.	

With Remarks on the Tin Trade, Tin Mines, and Important Statistical Particulars of the Present Position of the Tin Market, &c., &c.

**INVESTMENT OR SPECULATION.—A SELECTED LIST OF RAILWAYS, BANKS, MINES, COLONIAL SECURITIES, FOREIGN GOVERNMENT BONDS, &c.,** forwarded to bona fide investors on application, in addition to the high rate of interest many of the above are paying, there is now every probability of a great rise in market value.

PETER WATSON, STOCK AND SHAREDEALER,  
79, OLD BROAD STREET, LONDON  
(three doors only from Hercules-passage, entrance to the Stock Exchange).

(Twenty-four years' experience.)  
(Two in Cornwall and Twenty-two in London.)  
Bankers: The Alliance Bank, and the Union Bank of London.  
References given and required (when necessary) in all the principal towns of the United Kingdom.

**THE LONDON DAILY RECORD—STOCK AND SHARE**

LIST—STOCK EXCHANGE SECURITIES. Published every evening at 5 o'clock. It contains the latest prices of railways, banks, mines, foreign stocks and bonds, financial, insurance, and miscellaneous shares, remarks on the daily rise and fall in prices, with advice as to purchase and sales. Annual subscription, £1 1s.; by post, £2 5s.; monthly subscription—by post, 4s.; single copy, 1d.; by post, 2d.

PETER WATSON, Stock and Sharedealer, 79, Old Broad-street, London.

**MR. EDWARD COOKE,**  
STOCK AND MINING SHAREDEALER, 76, OLD BROAD STREET  
(and Mining Exchange), LONDON, E.C.

Mr. COOKE still advises the purchase of Great Western, Great Wheal Vor, East New Lovell, New Wheal Lovell, Prince of Wales, and Frank Mills shares, feeling confident of a considerable advance in price.

BUYER of Frank Mills, New Wheal Lovell, and West Great Work shares, at market prices.

Price-list sent free on application.

Bankers: Alliance Bank.

**MR. W. H. CUELLO,**

No. 42, CORNHILL, LONDON, E.C.

SPECIAL BUSINESS in Great Lacey and Great North Lacey shares.

**MR. JOHN MOSS, STOCK AND SHAREDEALER,**  
ST. MICHAEL'S CHAMBERS, 42, CORNHILL, E.C.  
Business as BUYER or SELLER in Chontales, Don Pedro, General Brazilian, and Taquaril Gold shares.

Bankers: City Bank, Finch-lane, E.C.

**MR. T. ROSEWARNE, 81, OLD BROAD STREET,**

LONDON, E.C.

T. R. has BUSINESS in the following mines, at close market prices:—

Cook's Kitchen. Great Wheal Vor. Tincroft.

East Carn Brea. West Caradon.

East Grenville. New Lovell.

Frontino and Bolivia. Prince of Wales.

Parties interested in mining, and who wish to be guided right, should consult T. R., he not only having been a practical miner, but has been in the share market for thirteen years. Those who have hitherto consulted me have done well, and I never saw a better opportunity than the present to make money if properly employed. Shares can be exchanged to great advantage.

CHIVERTON MOOR.—At Clog's shaft two creeks are driving north and south to cut the West Chiverton lode, and should they be found productive shares will be £20, and for my own part I do not see why Chiverton Moor Mine should not be equal to West Chiverton. The management is now in London, a committee appointed, and call of 6s. 6d. per share made. I strongly advise the immediate purchase of these shares at present prices, also East Caradon, Bedford Consols, Bedford United, and Frontino and Bolivia.

T. R. is a SELLER of West Chiverton and Chontales for time on below the present market prices.

Money advanced to any extent on good mining shares.

Office hours Ten to Four. Bankers: Bank of England.

Established Twelve Years.—Twenty-four Years' Experience.

**MR. F. W. MANSELL, 44, THREADNEEDLE STREET,**

LONDON, has the following SHARES FOR SALE, cash or account, at net prices:—

45 Chiverton Moor, £5. 100 New Lovell, £23 $\frac{1}{2}$ . 1 West Chiv., £52 $\frac{1}{2}$ .

70 Drake Walls, 20s. 6d. 25 North Crofty, 21s. 1 West Franches, £48.

65 East Caradon, £28 $\frac{1}{2}$ . 115 No. Treskerby, 16s. 6d. 40 Wt. Chiverton, £23 $\frac{1}{2}$ .

10 East Lovell, £9. 250 Prince of Wales, 21s. 6. 1 West Seton, £207.

35 East Grenville, £4 $\frac{1}{2}$ . 5 Providence, £38 $\frac{1}{2}$ . 3 Wt. Mary Ann, £19 $\frac{1}{2}$ .

5 Great Lacey, £19 $\frac{1}{2}$ . 150 Redmoor, 5s. 30 Wt. Seton, £72 $\frac{1}{2}$ .

150 Great So. Chiverton. 10 Tincroft, £18 $\frac{1}{2}$ . 150 Gen. Brazilian, 8s. 9d.

15 Great Wt. Vor, £14. 100 So. Condurrow, 27s. 6. 250 Worthing, 6s. 3d.

150 Great No. Lacey, 34s. 20 West Caradon (call 100 Chontales, £13 $\frac{1}{2}$ .

The following SHARES are FOR SALE:—

Mr. MANSELL is also a BUYER of those marked \* at close prices.

Shares may be bought for future payment of Mr. MANSELL. Every facility afforded.

Mr. MANSELL can recommend six mines which cannot fall to advance cent. per cent. in the course of the next six months. Early application should be made.

THE PURCHASE and SALE of Stock Exchange Securities and Mining Shares negotiated upon close terms. References exchanged.

Bankers: London Joint Stock Bank.

**MR. H. WADDINGTON, SHAREDEALER,**

48, THREADNEEDLE STREET, LONDON.

The following shares are pre-eminently deserving of purchase, and will at an early day command a profit on present prices of from 300 to 50 per cent:—

Wheal Agar, at 25s. to 30s.; Taquaril, at 4s. 6d. prem.; Chiverton Moor, at £5 to £6 $\frac{1}{2}$ ; Wheal Uny, at £2 $\frac{1}{2}$  to £3 $\frac{1}{2}$ .

The following SHARES are FOR SALE:—

25 Prince of Wales, 5 Great Vor, £14 $\frac{1}{2}$ . 10 Clifford, 30s.

20 Great So. Tolgus, 17s. 6. 20 Anglo-Italian, 12s. 6d. 10 West Bassett, 20s.

50 Tamar Valley. (15s. paid). 50 Taquaril, 5s. prem.

**MR. HENRY MANSELL, 44, THREADNEEDLE STREET,**

LONDON.

EAST CARADON.—Mr. H. MANSELL, having had the mine thoroughly inspected, should be consulted at once as to future prospects.

PRINCE OF WALES.—These shares are now at 19s. to 21s., and must go lower, seeing that the bottom level has failed.

Mr. H. MANSELL can recommend three mines for an immediate advance in price. Particulars on application.

Thirteen Years' Experience.

Bankers: London Joint-Stock Bank.

References exchanged.

**INVESTMENT, LOAN, AND BANK AGENCY.**

Established 1839.

PUBLIC SECURITIES of every description Bought and Sold upon advantageous terms. Facilities for payment, and every reliable information afforded to investors.

LOANS granted, for one year or any shorter period, on Stocks and Shares having a market value.

Five per cent. interest allowed upon DEPOSITS of all amounts.

Money and Finance Agency Business generally undertaken.

RICHARD TAYLOR AND COMPANY.

No. 12, Clement's-lane, Lombard-street, London, E.C.

**GOLD AND SILVER MINING SHARES.**

RICHARD TAYLOR AND COMPANY are DEALERS in the FOLLOWING SHARES:—

ANGLO-BRAZILIAN. FRONTINO AND BOLIVIA. PORT PHILIP.

CHONTALES. GENERAL BRAZILIAN. ROSA GRANDE.

DON PEDRO. PESTARENA. ST. JOHN DEL REY.

Investment, Loan and Bank Agency.

No. 12, Clement's-lane, Lombard-street, London, E.C.

**MR. T. P. THOMAS, MINING AGENT AND**

SHAREDEALER, 77, OLD BROAD STREET, LONDON.

Lead mining in the Counties of Cardigan and Montgomery has lately been very successful, and likely to continue so.

T. P. THOMAS, having a thorough knowledge of these districts, is at all times prepared to make SELECTIONS for investors.

WEST CHIVERTON, WHEAL CHIVERTON, MINERAL BOTTOM, and other Mines in the Chiverton District.—Investors and speculators can have reliable information as to the present position and future prospects of the above-named mines on application to T. P. THOMAS.

**MR. CHARLES THOMAS,**

MINING AGENT, GENERAL SHAREDEALER, AND AUCTIONEER,  
3, GREAT ST. HELEN'S, LONDON, E.C.

Third Edition, price One Shilling; post-free, fourteen stamps.

**MINING FIELDS OF THE WEST:**

A PRACTICAL EXPOSITION OF THE

PRINCIPAL MINES AND MINING DISTRICTS OF CORNWALL AND DEVON.

Published by CHARLES THOMAS,

At No. 3, Great St. Helen's, London, E.C.

**MR. W. H. LANYON,**

(Late of Kennall Gunpowder Company)

**GUNPOWDER MERCHANT,**

TRURO.

NOTICE OF REMOVAL.

**MATTHEW GREENE** begs to inform his FRIENDS and

CLIENTS that he has REMOVED from St. Michael's House, Cornhill, to—

No. 14, PINNER'S HALL, OLD BROAD STREET, LONDON, E.C.

M. GREENE has just returned from a tour of inspection, and can give reliable information on the following mines:—

Devon Great Consols. Marke Valley. Princess of Wales.

Drake Walls. Van Mine. West Caradon.

West Drake Walls. Wheal Mary Florence. New Clifford.

Tamar Valley. Prince of Wales. New Lovell.

East Caradon. West Prince of Wales.

And the mines in Clifford Amalgamated district.

M. G. will be happy to give all parties desirous of inspecting New Clifford or Tamar Valley Mines an order to go underground to examine the lodes, &c., and judge for themselves as to the prospects of these two mines.

SPECIAL.—VAN MINE: M. G. is well informed as to the merits and prospects of this property, having watched its progress for the last two years; and only just returned from a visit to the district, will be happy to give his clients the benefit of his observations.

**SHARES WANTED.—**

State number and lowest price.

ST. IVES CONSOLS. ROSEWALL HILL.

TRELYON CONSOLS. MARGARET.

KITTY LELANT. SOUTH CONDURROW.

DING DONG. TRELAWNY.

H. B. RYE, 77, OLD BROAD STREET, LONDON, E.C.

**BARTLETT AND CHAPMAN, 2, BUCKLERSBURY,**

LONDON, E.C., are BUYERS of—

100 EAST CHIVERTON. 100 LOVELL CONSOLS.

10 NANGILES. 20 WHEAL TRELAWNY.

5 WHEAL JANE.

Sellers to state lowest price for cash.

TIN VALLEY.—Full particulars of this rich tin mine forwarded on application.

2, Bucklersbury, London, E.C.

**BARTLETT AND CHAPMAN'S "INVESTMENT CIRCULAR**

AND FINANCIAL RECORD"

(Published on the first Wednesday in each month)

Comprises—A Comprehensive Review of the Stock, Share, and Money Markets; an Enumeration and Comparison of the Whole Circle of Investments; and Valuable Suggestions for Purchase or Sale.

\* Sent free on application.

2, Bucklersbury, London, E.C.

**MR. G. D. SANDY, 48, THREADNEEDLE STREET, E.C.,**

has FOR SALE the following SHARES at net prices:—

30 Chiverton. 120 Great So. Chiverton. 120 Tamar Valley.



# Direct English, Indian, and Australian Submarine Telegraph Company (LIMITED).

Incorporated under "The Companies Acts, 1862 and 1867."

CAPITAL £2,500,000, IN 500,000 SHARES OF £5 EACH.

The first issue of shares will be for the lines from SUEZ to BOMBAY and the MALTA LINES, and will consist of a CAPITAL of £750,000, in 150,000 shares of £5 each. £1 to be paid on application, £1 on allotment. No further call will be made till the branch line from Malta to Brindisi is laid and working. No call will be made exceeding £1, and never at a shorter interval than three months. Subscribers for these shares (150,000) incur no liability of any kind, except for the calls thereon, but the holders of them will have the option of taking shares in proportion to their holdings in any future issues of shares.

## DIRECTORS.

The Right Honourable W. N. MASSEY, lately Minister of Finance in India—CHAIRMAN.  
JOHN CLERK, Esq., 10, Rutland-gate, Hyde-park.  
JOHN HARVEY, Esq., 7, Mincing-lane.  
GEORGE HENDERSON, Esq., 7, Mincing-lane.  
JOHN HEUGH, Esq., Manchester.  
THOMAS HUGHES, Esq., M.P.  
BEAUMONT WILLIAM LUBBOCK, Esq., 15, Lombard-street.  
GEORGE MACNAIR, Esq. (late of Calcutta), 44, Hamilton-terrace, N.W.  
JAMES WYLLIE, Esq., 13, Leadenhall-street.

BANKERS—Messrs. ROBERTS, LUBBOCK, and Co., Lombard-street.  
THE NATIONAL BANK OF SCOTLAND, London and Scotland.  
THE ORIENTAL BANK CORPORATION, London, and Indian and Australian Branches.

SOLICITOR—JAMES CROWDY, Esq., 17, Serjeants' Inn, Fleet-street.

CONSULTING ELECTRICIAN—Sir WILLIAM THOMSON, F.R.S.

ELECTRICIAN AND ELECTRICAL ENGINEER—CROMWELL F. VARLEY, Esq., M.I.C.E.

NAUTICAL SUPERINTENDENT—Capt. HENRY A. MORIARTY, R.N., C.B.

SECRETARY (pro tem.)—NASSAU JOHN SENIOR, Esq.

OFFICES,—No. 2, KING WILLIAM STREET, E.C.

## PROSPECTUS.

The object of this company is to lay and work submarine telegraphs between England, Gibraltar, Malta, Egypt, India, China, and Australia, which shall be in English hands from end to end.

This telegraph will work by submarine cables, and will, therefore, be more accurate, reliable, and speedy than by land lines. The cost of the cable selected will be a little more than half that of the deep sea cable ordinarily in use.

The cable has been carefully tested under the direction of Sir William Thomson and Mr. Varley, and nothing could be more satisfactory than the results. The report addressed by Sir William Thomson to the directors is appended. With a view of ensuring direct and advantageous communication with the Continent of Europe, it is proposed to lay at once a short line between Malta and Brindisi. The contractors will engage to ship this cable not later than the end of May.

The directors reserve to themselves to decide whether, after this branch line is laid, a cable from Malta to Egypt, or from Suez to Bombay, shall be next laid. In the event of the cable between Malta and Egypt being undertaken first, no call will be made beyond the £2 paid on application and allotment till the Malta-Egypt line is laid and working. In the event of the lines from Suez to Bombay being undertaken first, £1 will be called in June, and £1 in September, and the remaining £1 in December, 1869.

With respect to the anticipated revenue, it has been generally admitted that it is not too much to calculate upon 300 messages per day—that is, 150 messages each way. Supposing the line from Suez to Bombay to earn an average of 300, per message for 300 days, the number of messages given above would, at any rate, yield a gross annual return of £135,000, upon a cost somewhat exceeding £600,000. The working expenses of submarine telegraphs form a very small per centage on the traffic.

Her Majesty's Government has furnished the company with the latest surveys

and soundings of the proposed route, which prove that the beds on which these cables will lie are unusually good.

40,000 shares have already been taken up, and there remain 110,000 shares, which are offered to the public.

Applications for shares, accompanied by a deposit of £1 per share on the number applied for, may be made to any of the bankers of the company. Prospectuses and forms of application may be obtained at the bankers, or at the offices of the company.

The deposit will be returned if no allotment is made to the applicant. Copies of the Memorandum and Articles of Association may be inspected at the offices of the solicitor or of the company.

For further particulars see detailed prospectus in newspapers.

## COPY OF LETTER.

SIR WILLIAM THOMSON TO THE DIRECTORS OF THIS COMPANY.

London, 27th February, 1869.—GENTLEMEN: After the severe tests to which I have subjected your cable yesterday and to-day, I have perfect confidence in recommending you to adopt it. I am convinced that it will give you a surer prospect of complete success in your undertaking than you could have with any other form of cable hitherto devised or made.

In the varied experiments I have made I have exaggerated every variety of rough usage and heavy strain to which it could be exposed in laying it, or even in hauling it up on a grapple from a depth of three miles, and I find the mechanical qualities to be most satisfactory—much superior, indeed, to anything I could have anticipated. The protection afforded to the electric wire was quite perfect throughout all the rough usage both in respect of insulation and continuity.

I remain your obedient servant,  
(Signed) WILLIAM THOMSON.

## ABRIDGED PROSPECTUS.

# The Dolwen Company, Limited.

CAPITAL £5000, IN 5000 SHARES OF £1 EACH.

DEPOSIT 10s. PER SHARE.

## DIRECTORS.

MR. ALEXANDER BRIDGE, 7, Argyll-place, Regent-street, W.  
MR. J. B. BALCOMBE, Aberystwith (Managing Director Bronfloyd Company).  
MR. CHARLES FAUNTLEROY, Russell-street, Bermondsey.  
MR. JAMES RHODES, Hanover-street, Islington, N.

BANKERS—THE NATIONAL PROVINCIAL BANK OF ENGLAND, ABERYSTWITH.

BROKER—MR. EDWARD BALCOMBE, 47, Threadneedle-street and Stock Exchange.

AGENT—CAPTAIN JOHN DAVIS, Manager, Llywernog Mine.

SECRETARY—MR. HENRY FERGUSON.

OFFICES,—QUEEN'S ROAD, ABERYSTWITH.

This company was incorporated March, 1867, in 1000 shares of £5 each, with the object of purchasing a lease for 21 years from October, 1866, arranged to be granted by the Hon. J. Kenneth Howard, Chief Commissioner of Her Majesty's Woods, &c., of the mines and minerals contained within and under 798 acres of land known as Bodell and Dolwen, and to work the said mines. Owing to the then pending commercial crisis only 421 shares were subscribed for; however, the proprietors, acting under the best obtainable advice, determined to take up the lease, and to carry out further exploratory trials in order to test the south lode. The work that has been so done will be best evidenced by the joint report appended to the prospectus of the agents of the Llywernog and of the celebrated Bronfloyd Mines.

The property is situated about 14 miles east of Aberystwith, 2 miles from Devil's Bridge, and about 1½ from Cwmystwith. It contains two masterly lead lodes; the south one being, according to repeated drillings, the same lode as the celebrated Frongoch of the Lisburne Mines Company, under the management of Messrs. John Taylor and Sons, which, upon a capital of £7500 (400 shares, £18 15s. paid), have yielded and returned £510 per share—total dividends, £204,000.

Its position will be further explained by the reports of Mr. J. H. Hitchens, consulting engineer to the Devon Great Consols Mines, and by Mr. Matthew Francis, C.E., formerly chief agent of the Frongoch Mine.

The directors were advised that Dolwen was one of the most promising pieces of unexplored mineral ground in the Principality, the development of which had

been hindered by the questionable title of the Crown lessee; however, as in the interim the difficulties affecting the old lease were overcome by a new grant at one-fourteenth royalty direct from the Crown, they put in hand the exploratory trials recommended, and the result abundantly proves the soundness of Messrs. Hitchens and Francis' advice. These operations have been solely confined to the Dolwen or eastern portion of the property, and it is a significant fact that Messrs. John Taylor and Sons have recently purchased from this company the western ground, and formed a separate company to work the same.

In order to extend the basis of the present company, special resolutions have been passed to subdivide the 1000 shares of £5 each into 5000 shares of £1 each, without further liability—2000 of these shares will represent the outlay of the company to the present time, and the remaining 3000 shares will form the future working capital. Of the 3000 shares, 750 have been privately subscribed for, and the directors may add that as most of the speculative character attending the opening of a mine is in this case at an end, they offer to public acceptance the remaining shares (reduced to a minimum liability), believing that the economical application of the capital so to be raised will, with steady perseverance, develop a fine property.

Prospectuses, containing the full reports of the consulting engineers and mining agents above referred to, may be had on application to Mr. EDWARD BALCOMBE, Sworn Broker, 47, Threadneedle-street, and Stock Exchange, London, or at the offices of the company.

## Original Correspondence.

MR. ENNOR'S REMARKS ON THE VIBRATION OF DISTINCT PORTIONS OF THE EARTH—No. III.

SIR,—I concluded my last by asking the professional geologists to tell us what caused portions of the earth to move hundreds of feet from their original positions, so as to raise or depress coal beds and stratifications, not omitting the long-formed granite? These moves are at all times by the sides of lodes, and granite is often thrown up on one side of a lode over 100 ft., opposite to killas, clay-slate. Knowing that these are facts causes me to ask at what age of the world these moves took place? Was it before the recorded deluge or since, or are they now hourly shifting? Professional geologists' opinions on these interesting points, I think, would be well received by all the thinking portion of the readers of your valuable Journal.

I said before that I have taken time and trouble to get up sections and models of the earth's crust, trying to discover how these moves took place, and they show at a glance that all the outer portion of the earth is in V-pieces, between lodes; and these V-pieces have all moved. Those that have the point of the V downwards sink, and those that have the point of the V upwards rise. We often see on sea-bound cliffs apparent marks of different sea levels, and in other places, in shallow water, we see traces of submarine forests, that are now below sea level; but when I shift my models, so as to bring the coal beds and strata all to where they appear to have been first formed, all the sea levels agree with the present appearance; and it goes further—it proves the present sea levels are the same as they were before the deluge, and it also proves that a portion of these moves actually took place before the flood.

I know of no other way to discover if the sea has ever changed its level, except by these moveable sections, if made from careful observation, thousands of which man has seen; and these are not fabricated theories, but visible facts, which I have before invited Professor Smyth, amongst others, to turn his attention to. I know of no other way or law by which they can argue that the sea has or has not changed its level. In what other way can he fix his mark? Will he take it from the Moon, the nearest planet, which would amount to nothing? The most learned philosopher, with all the best instruments of the present day, would not bring it within the distance of the present high mountains above the sea; then, where would he set his mark? I contend the present sea-shore is no guide, as no layer of rock remains in the same position.

Many persons argue that shells in the hills prove that the sea was once over them. I admit it, and venture to go further, and say the contents of every ancient hill was formed under water. This bears out my argument that hills are only A-pieces of rock or strata between lodes, with the point upwards; these rise. Sunken forests are V-pieces with the point downwards; these descend. Of this we have thousands of proofs: portions of South America have risen so as to break the surface. Then, the newspapers have just informed us that St. Petersburg is sinking so rapidly as to be likely to be a city of the past in another century. These moves are constantly occurring, but generally it is a work of time. If all these moves had occurred at the same time the earth would all have been in loose pieces: then what would have been the result? Some time since I was asked by a professional geologist if I did not agree with his theory that the origin of worlds and stars in the firmament were at first only fragments thrown off from some great luminary or planet? but I told him he had overlooked the wisdom of the Creator, as He had better arranged it, by putting two great powers—centrifugal and centripetal—to act against each other. If it were not for these opposing powers, and his views were correct, the earth, when in these loose pieces, would have materially increased these starry orbs. But all these moves are freaks of Nature, guided, in a measure, by the earth's own laws, and are of every day occurrence in some parts of the earth. Such are my views, and I have come out openly on these subjects, that they may be handed down to future ages.

I believe and argue that all the vibrations felt by man are nothing more than trifling movements of these V-pieces. They occur chiefly in mineral districts, where ores are of recent formation; but where they are of older formation, these shocks are seldom perceptible. Thousands of these movements are not a thousand yards in extent, whilst others may extend for hundreds of miles. Much depends on the nature of the lodes; if they are clay lodes, or have free walls or sides, they give way first. There might be 1000 lodes in a large piece, with tight or hitehey sides, and neither of them moved, except with the whole mass, and a small piece, only 100 yards wide, with free sides, might shift so much that a man standing on it might feel a shock, and think there was a noise; and a man ½ mile away would feel nothing. I believe it is more the feelings being acted on by the movement than any noise. Nearly all those that feel these movements agree that the vibration is north and south, and the printed face of nature shows that the majority of the moves or shifts of rock are north and south. I have observed, as have thousands of others, that the walls of lodes show these moves, as many of them have smooth walls, which are as bright as mirrors, which appears to be caused by friction at the time of the movement. The miner, when reporting on lodes, often remarks that the lode is promising to become productive, as it has smooth free sides or walls.

Small pieces move only short distances at a time, and are seldom to be seen at surface. Large masses generally rise more, and break the surface, when many pretended geologists, and the more timid of the masses residing near, report that the interior fire has burst the earth, and broken through the crust. As far as my experience goes, I say the more frequent these shocks the better the chances for mining; they are good mineral indicators. The miners live under no fear of the earth's interior fire, neither do they believe these moves have any connection with burning mountains, or that they have anything to fear from them, if they keep out of the way of falling buildings. Some may be ready to ask what causes the sea's waves to rise at these times. In answer, I say by the sudden movement of large pieces between lodes, which are not unlikely to be hundreds of miles over, and if he takes a wooden shoot, (say) 50 ft. long and 20 in. deep, and half fill it with water, and then raise one end only 1 in. he will see what a wave it throws to the other end, then suddenly drop the other end 1 in. below the centre, and continue it, when he will soon learn how a sea-wave is got up.

It was a similar vibration that caused so much damage at Lisbon: there was no sinking of the rock there. The river opposite is about seven miles wide, and the vibration of a moving piece caused the waves to rise 50 ft. high, and it flowed up the valley and swept down the houses far above Black Horse-square, but no break in the earth or sinking took place. At Cadiz Bay the sea waves were 10 ft. higher than at Lisbon, but nothing was reported as to any sinking even there, but the vibration extended for hundreds of miles around. I before stated these moves occur more often in active mineral-forming districts, and they are caused by chemical action, which sets matter in motion; these moves may be aided by galvanic or electric currents when the balance or equilibrium commonly maintained between centrifugal and centripetal forces are (through some occurrence unknown to man) out of place.

It is well known that we have had through the last year extraordinary changes in the state of the atmosphere, which may have aided these moves. If (we may suppose) our atmosphere were suddenly to lighten 2 lbs. to the inch, and the centrifugal power, through some great internal chemical action there going on, added 3 lbs. per inch to the power, there would be a difference of 5 lbs. to the inch in favour of a rise in a A-piece with the point up.—N.B. I do not say this is the law or the power that governs these moves, but such power to me appears probable and possible.—I may mention that I believe most of the moves felt by man are the upward moves. I think the V-pieces, with the point down, are gradually dissolving and sinking; they are like the severed limb of a tree decaying. This is probably the case at St. Petersburg. I have observed in some correct sections of coal beds in the V-pieces, with the point down, that some of the beds are wanting; they are short of their number. These appear to be dissolved and gone. I discovered, also, by my moving section, that when I placed all the beds in line the V-pieces, with the points down, are over 1-100th part short in length; and I ask, what has become of it, if not dissolved and gone to its original element?

In conclusion, I beg to remark that these are interesting subjects

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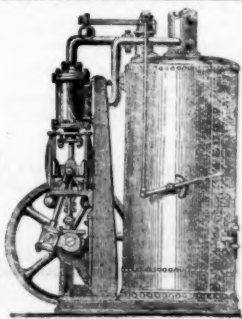
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to thinking men, and most of them new, and worthy of being taken up by the most learned professional geologists; and if they were to write a book, showing their views on these subjects, I think it would be found more useful to a thinking public than the best of even Shakespeare's plays, so much patronised by the thoughtless masses. I believe they would be far better employed than they were at their great gathering at Bath, when they attempted to show us the origin of the earth. I may fairly ask what their revelations at Bath amounted to, or if any sane man believed a single word of what was there said in reference to the origin of this globe?

Many thought these men, with such high-flown expressions, and such an addition to their names in the shape of nearly all the letters in the alphabet, must be inspired; but, for my own part, I set them down as only met to speculate as to the origin of the earth. They certainly appeared all pretty well agreed that the earth was originally a great ball of fire, but by some unknown means it got out of order, and began to cool down, and was millions of years cooling before man set his foot on it. Prof. Thompson said he had gone into a calculation of the time such a ball of fire would take to cool, and he found it took 98 millions of years. Prof. Houghton got up and said he had made a very careful calculation, and it took 118 millions; then some one said it took 1200 millions. Then came Prof. Crall, who said he thought it took only about 100,000 years; this brought up Prof. Lyell, who said he could not agree with any of the former speakers, as he thought it took only 83,000 years to cool. Just at this moment Sir R. Murchison rose, and made an extraordinary call on all true philosophers to join him in getting up a subscription to send an exploring party into the interior of Africa, as he thought it the finest country in the world, left lying dormant and unexplored. This appears to have roused these men from their transitory state. I do not say these men were sent into the world to reveal by inspiration the origin of the earth, but if what they say proves anything as to the time of the origin of the earth, it only goes to show that if these shifted pieces move only 1-16th part of an inch in a year there would be by far greater moves than any yet found.

I will not now make further comments on the Bath men's theory, but leave it to the public as an open question, though I do not wish to have it criticised by the boys in the schools. I have given my views openly and with candour, but if anyone can give me a more reasonable or probable explanation on these subjects I shall feel obliged, if not I shall remain of the same opinion still. N. ENNOR.

#### THE FUTURE OF CORNISH MINING.

SIR,—It appears to be a generally received opinion that future mining operations, to become successful, should be confined to those deposits of mineral which are at a shallow depth beneath the surface of the earth, and which can be obtained without the aid of costly machinery for keeping out the water, and other purposes, as required in deep mines. Common sense at once tells us that there must necessarily be much less expense in procuring minerals when they are deposited near the surface than when they lie at a great depth. It is not merely a question of economy in a £ s. d. point of view, but it is also a question of loss of time, and loss of health to the miner—a loss of time because in deep mines, especially where the man-lift is not used, it takes a considerable time for the men to come up over the ladders; and as to their health, it is a well-known fact that the close air, impregnated with injurious gases, in deep mines tells upon the constitution of the miners, whose average duration of life is much shorter than that of men who are employed above ground. As the time has come when there is a paramount necessity to work mines on the least expensive system, it should, therefore, be kept in view that a careful inspection of all virgin ground in and throughout the mining districts of Cornwall should be made, for the purpose of discovering the lodes there, and testing them by shod-pits or shallow levels. Let us take for this purpose the northern part of the county of Cornwall; in that large blank space on the map of the county, where you will not find any railway marked down—the largest blank space of the kind to be found on the map of England. And how is this so? Is it because, as yet, the mineral deposits of the district have not been brought to light? As there is a time for everything, we are told in the book of Holy Writ, so likewise, doubtless, there is a time in the order of Providence when the hidden riches of a district, or country, shall be brought to light for the benefit of mankind. And who shall say that a time is not now approaching when the mineral and metallic wealth of North Cornwall shall be discovered? The geological conditions of the district are in favour of the opinion that lead and copper lodes are to be found here. Some have been already found and worked, but hitherto not successfully, as a rule; the exceptions, however, have shown that there are rich lodes in the district, which deserve a fair trial. I will take, for instance, a portion of North Cornwall only, and that a small portion from St. Minver to Camelford. In the parish of St. Minver there is one of the finest possible killas formations for the production of rich silver-lead that can be seen anywhere, and in one or two instances, where the lodes have been worked on, as near the coast, rich deposits of silver-lead have been obtained; but hitherto the mining public have given the cold shoulder to this and other districts, which they have branded at once with a bad name, because it is a new district, as though nothing good can come out of any other than an old district. These antiquated views are being dispersed, it is to be hoped, under the march of intellect, and under the progressive state of an especial knowledge bearing upon the business of mining, and upon the formation of lodes and their connections. The old-fashioned miner, who sticks to the fact of "where it is there it is," cries down every new district, until a second Devon Consols, a South Caradon, or West Chiverton has been accidentally found; I say accidentally found, for has not this been the case almost in regard to the mines referred to. A new district has no fair chance of being well searched over until some such accidental discovery has been made, then people marvel that it should have remained so long neglected. From the St. Minver district we come into the St. Teath district, with its Old Treburget, attesting to the glory of a departed day, when the richness of its silver-bearing gossan produced as much as 300 ozs., and over, to the ton, and which silver I can even now break from stones which have been used for building the hedges around that neighbourhood. Solid silver, in spots as large as a sixpence, and larger, connected with the gossan raised at the old workings there. Is it fair to presume that this is the only spot in the district worthy of being properly tried, when surface indications can be pointed out in many other parts equally good to those which led to the opening of the Old Treburget Mine more than 50 years ago? No one can say that there ever will be such a mine as this opened here again, but this I do say, that there is no valid reason why a proper search should not be made in the district with a view of finding another such, or even a richer, mine.

Nor is this the only mine of the St. Teath district where rich deposits of silver have been found, both native and in connection with lead. I have ample evidence, both written and living, as to my statements. The soft killas of the district of St. Teath and St. Kew, and also of Endellion, are congenial for the deposit of these minerals, as well as antimony in the latter parish, which has been raised from the old Treweath Mine in and about the year 1835, to the value of 70,000l., leaving a profit of at least 50,000l., and where six men, in the space of six months, raised antimony ore which yielded a profit of 6000l. I can verify this also by the clearest evidence. Here also the lodes were left but little sunk upon. The drifts were shallow. The deep adit was discontinued, because the owner of an intervening field would not let it be brought through, except on payment of a very large sum; consequently here is another rich mineral property which has, ever since 1835, been lying idle, and which, from the position of the antimony and silver-lead lodes, as laid down on the map before me, can be well proved by deep adit drivings and ample water-power. Leaving, then, the parish of Endellion, and approaching nearer Camelford, we at the same time approach the Roughton Moor (granite), and as we draw near the junction, there are to be seen copper lodes, carrying the finest gossans—strong masterly lodes, with yellow and black ore within a few feet of the surface; and these lodes, which run east and west, through a district taken from north to south for several miles, can be worked by the aid of the water of the River Camel, and that, too, to a great depth if necessary. I can point out one place on this run where, 40 years ago, a shallow adit, not more than 10 feet from the surface, was driven just as many fathoms into three parallel cop-

per lodes, which are there running together, and 20 tons of copper was raised and sold, and which, but for the ignorance of the agent, would have been 50 tons of ore, had he not allowed a great deal of ore to be washed away by his mode of dressing, and yet nothing more was ever done here. Then, the shareholders lived within a mile of the spot, and they were not wealthy enough to carry on the mine, so that it came to a dead stop, as it now remains. Had this discovery been made in a mining district, and the quantity of ore been raised there, out of such a small space as indicated above, what would have been the result long before now? The rich ore, which is still only a few feet from surface, would have been brought to grass, and fortunes made out of it. But the facts have almost died out from old age, or have become such a stale story that no one cares to think of them, much more repeat them. Nevertheless, they are facts which can be easily verified by living testimony. It is under these circumstances that I would draw the attention of miners to North Cornwall. If they come honestly, I trust they will be rewarded, otherwise I hope they will remain away.—Camelford.

F. EVANS.

#### SLATE QUARRYING IN CORNWALL.

SIR,—It is a gratifying fact that a gentleman well known in our county and through the country as a capitalist, Sir William Williams, Bart., and as a great employer of labour in various parts of the kingdom, has recently begun to search for slate in some of the unexplored parts of this locality, and near the old Delabole Quarries. I trust that, both for the interests of the gentleman in question and the general good, the trials now going on may in every respect prove satisfactory. I infer they have already proved so, as I learn the foundation is being laid for erecting an efficient engine forthwith. If the views entertained by men of great practical experience are to be relied on, there is the strongest evidence for believing that vast quantities of valuable slate rock can be proved in this district at little cost. The Bowthick, or North Delabole Quarry, which is on the same line of strata, has been paying over 20 per cent. profit for many years. I judge, from the information I have gathered from time to time upon the nature of quarry work, that the great secret of working slate quarries of value successfully mainly depends upon, and has to be insured by, the experience, judgment, and economy of the person having charge of the works. It is quite evident that the nature of quarry business is such that, to understand and manage all the departments effectively, the agency of an experienced and "thoroughbred" quarryman is most essential. Whatever may be the bearing of the agent, or whatever his knowledge as an engineer or excavator, it would, I think, be extreme weakness to imagine these qualifications could make up the void arising from inexperience. Certain quarries which ought to have paid profits annually, and have not done so, reflect no credit on those whose province it has been to manage them. It is the common opinion of many of the oldest quarrymen in the Delabole district that the most important and valuable beds of slate in the neighbourhood yet remain to be worked, more especially such beds as are known to exist in lands within a very short distance of the old Delabole quarries, being in the property of Mr. W. D. Hanson and others. I have lately taken considerable pains in order to weigh this opinion by an argumentative course of reasoning, and have come to the conclusion that the views of these old quarrymen are correct.

I have been told by one of the best authorities in such matters that a few hundreds of pounds, spent under proper direction, would be ample to prove any one place in this district. Such being the case, I feel sure that when the particulars are properly laid before any gentleman or party who may be disposed to go into the matter, the most satisfactory results may justly be anticipated. I wish it to be distinctly understood that I have no selfish ends in view in this communication, but what I have said, both with reference to quarries at present at work and those prospectively, has been said with a view to call special attention to facts requiring investigation, in order that a sound and prosperous condition of the slate district may be successfully established.—Camelford, March 9.

W. D. KING.

#### THE NEW METHODS OF STEEL MAKING.

SIR,—The discussion upon the very interesting paper read by Dr. Paul before the Inventors' Institute, and reported in last week's *Mining Journal*, gives rise to several important considerations concerning the Heaton process of manufacturing steel. Firstly, what is the relative cost of producing a ton of steel by the Bessemer process and by the Heaton process respectively? and, secondly, what is the principle upon which the Heaton process is based? having been two of the questions asked, and, in my opinion, not by any means satisfactorily answered. Every inventor who seeks the aid of the public to enable him to carry out his invention must be prepared to explain the principle upon which it is based, and its economy in comparison with the processes which it is intended to supersede. Where the invention is a mechanical one probably the most practical test is to ascertain the relative economy in producing 100l. worth of work by the old and by the new machines, taking care to consider in drawing the conclusions the first cost and probable durability of the machines, but where we have an exact science, as chemistry, to deal with this rule of thumb system of calculating is altogether unnecessary. During the discussion in question Mr. Herbert Noyes, jun., inferred that the nitrogen of the nitrate of soda had something to do with the conversion of the metal into steel, and Dr. Miller has reported that a very large proportion of the sodium used was found in the slag. Dr. Phipson said that the only use of the nitrogen was to form cyanides, containing the carbon in a form favourable for converting the iron into steel; and, assuming the same thing, Mr. G. F. Ansell suggested that the nitrate of soda should be dried before being placed in the Heaton converter—a suggestion which both Dr. Paul and Dr. Phipson considered good, although Mr. Noyes, the representative of Mr. Heaton, declared that the nitrate was not used dry, and that it was found advantageous to use it moist. Now, every step in the attempt at elucidation renders the comprehension of the principle of the invention more difficult. It would, probably, puzzle Dr. Phipson to secure the production of a cyanide in a Heaton converter, even with anhydrous nitrate of soda, and with wet nitrate I believe the production of a cyanide under the conditions named to be impossible. The oxygen of the nitrate would, in my opinion at least, be much more likely to take off the nitrogen, as suggested by Dr. Miller, in the form of nitrous fumes than to leave it to form cyanides; and if the formation of cyanides be possible, under the circumstances, I contend that the nitrogen liberated by the decomposition of atmospheric air would be in quite as favourable condition for the formation of cyanides as that liberated from the nitrate of soda. Taking all things into consideration, I think it is beyond question that the oxygen, and possibly the sodium, are the only elements in the nitrate of soda which exercise any beneficial influence in converting the iron into steel. We shall learn hereafter. H.

#### SOUTH WALES COLLIERY COMPANY.

SIR,—In the *Journal* of Feb. 27 some comments are made upon this company as being an additional instance of the failure of such undertakings when conducted as joint-stock companies through the absence of practical men. I read similar words not long ago in a contemporary, when noticing the failure of the Mersey Steel and Iron Company, "The cause for want of success in all limited companies is produced by bad management."

With your permission I must make one or two remarks upon the meeting of shareholders in the South Wales Colliery Company at Ethelburga House. It may have answered a good purpose for some to have talked about bad management or want of practical men. The absence of practical men in any undertaking is undeniably "suicidal" to it. I know something of the South Wales Colliery, and can say that Mr. Franks' report after his three weeks' enquiries about this work is strictly true. It is surprising how any gentleman could have the temerity to assert that one large item of loss to the company arose from the act of the late manager putting up machines that could only weigh 112 lbs. instead of 120 lbs. for the cwt., the "colliers' contract." What an oversight not to have discovered this defect in the machines before the last general meeting! If the same machines were before in use, why was not the loss through bad machines noticed in previous accounts at meetings of shareholders? Causes must be ascribed why undertakings do not pay. The machines where the colliers' coal is weighed have always been able to weigh 120 lbs. per cwt. They did

so in Mr. Russell's time, and have ever since. The Chairman has not surely forgotten that this weight of 120 lbs. per cwt. was often the talk between him and the colliers during the strike. This statement of weights, I fear, is brought out now to be used as a handle at future meetings. If, then, 120 lbs. have always been the hundredweight at colliers' machines, how can it help the directors in future? An independent report upon the actual working position and prospects of the colliery should be made, that the proprietors may be fully informed thereon.—*Abertillery, March 8.* ONESIMUS HUNT.

#### A REAL SAFETY-LAMP.

SIR,—On seeing in the *Mining Journal* a report of another of those fearful colliery explosions, and supposing it was caused by the men opening their lamps to light their pipes, I wish to call the attention of the mining world to the self-extinguishing lamp, invented by Messrs. Hall and Cooke, of Birmingham. The lamp, when properly trimmed, cannot be opened without extinguishing the light or damaging the lamp. It may also be sealed, so that it cannot be opened without destroying the seal, and should any colliers be so foolish as to do so, they should be visited with a heavy fine or severe punishment. If such precautions were taken, we should seldom or ever hear of explosions in mines. I believe if this lamp were brought into general use, it would be an equal benefit to master and man, by saving both life and property.—*Birmingham, March 10.* HUMANITY.

#### AUTHENTIC NEWS FROM MEXICO.

SIR,—May I request you to correct a mistake in last week's *Journal* in reference to the free export of gold and silver bars from the Republic of Mexico? The free export of all classes of minerals has been decreed by Congress; and it is expected that gold and silver bars will be allowed to be exported, but not free of duty altogether. Up to the present time all bullion has been coined in the country, and no silver or gold allowed to be exported, except in the shape of coin. A Bill has been presented in Congress, which, no doubt, will be carried by a great majority, for the export of gold and silver bars, with a moderate duty.—*March 7.* S.

#### CHONTALES MINES, AND THEIR MANAGEMENT.

SIR,—In your last week's *Journal* I am not surprised to find two answers coming from two of the principals in the late management of these mines, nor their attempt to contradict my statements which appeared in your *Journal* the previous week, but their contradictions are puerile and evasive. From an attentive perusal of these letters, your readers will gather that in many essential particulars my statements are corroborated, whilst others remain unassailed.

It is conceded at the onset of Mr. Truran's letter that operations on the mining ground proper (that, in fact, from whence were to be obtained the shews of success and encouragement) had, as I complained, to yield precedence to the Commissioners' more refined notion of personal comfort. Fresh from the luxuriant couch of London life, the physical condition of himself and the late Capt. Hill could not all at once become acclimated to hammock and hard boards, and, therefore, at what were the most important engagements, houses and stables for themselves first engaged their attention, and thus, as I have already said, the men were taken from their proper and legitimate work in the mines, not by me, but by the Commissioners themselves. Where is the practical man who, in an emergency such as then existed, would not have cheerfully employed a room common to other purposes as one for the purpose of holding a Court of Enquiry? Capt. Hill and Mr. Truran could all this time boast of the dignity of a distinct and commodious room appointed to their special use. A selfish consideration dictated the uninterrupted creation of a fine house, stables, and detached kitchen, and rooms for servants, &c., to the entire neglect of the other officers' quarters, which should have had immediate attention. I would here remark that I was living in the same house with the officers up to a short time before the arrival of the Commissioners, and had to put up with great inconveniences, because it was not possible to have made better accommodation up to that time. It must be remembered that it was a new settlement, and far away from where any assistance could be obtained to enable us to make things more comfortable in the time. The Commissioners, on their arrival, occupied the fourth part of a new frame-built house, and their condition was far from disheartening, inasmuch as they had good beds and good fare, and were quite distinct and separate in their apartment.

Mr. Truran lays great stress upon the prevalence of discontent amongst the men, and attributes their murmurs to bad accommodation. I iterate my previous assertion, that the dissatisfaction arose mainly from inequality of wages, and, I will add, an indifferent commissary, bad accommodation being a very secondary cause, whilst the absence of light and imperfect ventilation dwelt upon by Mr. Truran were evils which received my attention during the absence, and without the previous knowledge or sanction, of the Commissioners.

Admitting an error in asking for so large a staff of workmen as I did, I consider a much more flagrant mistake was made in the selection of those sent out. I asked for millwrights, but carpenters were sent, men untrained to the work, and comparatively useless, involving no end of trouble and delay in the construction of the machinery. Sweeping charges are made with respect to my management up to the period of Mr. Truran's arrival. These are absurdly false, and I fear maliciously based. I will not go to the length of quoting such facts as this, but briefly state how matters were arranged up to that time.

There were three principal mining agents; each one I had placed in charge of separate mines, and under these were others whom I had engaged in the locality. I made it my duty each day, if possible, to visit each mine, accompanied by the agent in charge, and to give the requisite instructions. The agent in charge had, and I think rightly too, instructions from me to engage or discharge the labourers, and report the same to me; it was incumbent upon them to see my orders properly carried out. A cashier neither engaged or discharged a labourer, save on one occasion, and then he simply acted under my instructions. It is very unjust to lay the blame of the store-keeping to my door. My duties were sufficiently onerous without having to devote much time and attention to this department, an occupation more fitting to a competent store keeper, and not such an one as the company sent out; still it did receive my attention, and the statement of intricacy in accounts and no books kept is an invention, and one not very creditable to Mr. Truran. Strict accounts were kept of goods received and delivered, and I believe that nothing went out without an order from myself, or one of the agents in charge of the various mines, who were allowed to order goods as were commonly required in the mines.

I readily admit that the company's books were some months in arrears, but whose fault was that? The company were advised that such was the case before the Commissioners were sent out, and are solely to blame for having sent out an incompetent cashier, whose duty was to keep proper books, but my hands were completely tied with this individual, who was authorised to sign all cheques or drafts on our financial agents, and if I discharged him I was directly without means of carrying on the mines. An assertion appears in Mr. Truran's letter that the management of the mines was never taken out of my hands. Much turns upon this point, and requires qualification. In the mere laying out and working the mines I certainly retained authority, but the Commissioners' interference in withdrawing my men neutralised my plans, and rendered my position, as I previously stated, that of an irresponsible subordinate. With respect to the charge of "extravagance and unreliability," such being the case, it is very curious and contradictory that I should have been so long entrusted with the management! Who, let me ask, had charge of the commissariat department, and made a statement in their report to the directors that they had found great extravagance in this department on their arrival, and had censured me for it? The Commissioners themselves; while the fact is that there was much greater extravagance after than before their arrival. In Mr. Belt's report, read at the meeting in June last, he asserted that he had effected a reduction of 50 per cent. in this department. This I believe, and also that the excess was laid on upon the advent of the Commissioners in 1868. Of the general disregard to facts and figures apparent in Mr. Truran's letter, I will give an illustration in his contradiction of my complaint that "in a year and seven months there were no fewer than six changes in the Commissioners." This, I repeat, is substantially correct, and no one is more thoroughly conversant with the fact than Mr. Truran. There were five distinct gentlemen sent out, one of whom acted upon two separate appointments. In this matter, then, to whom can the term "quibbler" be most correctly applied?

In the matter of estimates and expenditure, my instructions were not to exceed 3000l. per month; but to estimate for that amount whether it was probable or not I could obtain labourers, this I did to the best of my judgment. But how could I estimate for expenditure over which I had no control? For instance, I had nothing to do with ordering stores, cattle, provisions, freight, and carriage of same or of machinery, all of which were subject to considerable fluctuations, and formed a principal item in our monthly cost.

Mr. Truran enquires, "Who was responsible but Capt. Paul for the cost during the month of August, 1867, when he stated that the cholera had broken out and dispersed the native labourers?" I answer, my report received the confirmation of Mr. Burgess, one of the Commissioners then in charge, and subsequently that of Mr. Belt, who, on examining the day-book for that day, found my statement correct. From recollection, the principal cause of that month's expenses being so high arose from the payment of arrears for freight and charges on provisions, also the usual monthly supply of provisions by contract, and the erection of machinery, making tramways and water-courses, entered into by and during Mr. Truran's time as Commissioner. I would also remark that previous to the arrival of the Commissioners I was in the habit of engaging native labour, under a Government contract ticket, for periods of from one to six months, and by this agreement the men were obliged to stay the stated time, under pain of imprisonment. This rule was done away with by the Commissioners, and with it all restraint over the natives. The consequence was that the contractors men were compelled to remain with them, but the company's men nearly all left when cholera broke out. The only difference it could make to the monthly cost was less the wages of (say) 200 men, at an average of 3s per month—£1600, as the cost for contracts and general staff of officers and Englishmen was the same as before.

Having thus disposed of Mr. Truran, I turn to Mr. Belt, and can assure this gentleman I am as unwilling as himself to enter into any personal matters, and refer him for my reasons for not noticing the exceptions he took to my management at the meeting to my former letter, but I am fully prepared to enter into them through the medium of this *Journal*. To the primary objection, then, that "the deep adit levels should have been commenced at the onset of the company's operation; and I believe that if this had been done they would have been in a very different position to what they are now." I would simply repeat that they were not only commenced at first starting, but were completed on Mr. Belt's arrival, and in confirmation of this I refer your reader's to Mr. Belt's report, dated April 6, 1868. In this he refers to the rich run of ore gone below the bottom levels at Consuelo, and recommends taking out the pillars and throwing down the ore into wagons in the lower levels. And, again, in San Antonio—"the con-



tinued poverty of the lower levels, from which I had hoped to have got out ore for the stamps." And again, "the average value of the ore extracted and kept is only 5 dwts. per ton, whilst a considerable portion has been thrown away as worthless. The ground over this level produced near 1 oz. per ton, and the evidence was that the mine was not so rich in depth." And the same of Santo Domingo. I would, therefore, enquire—Why does the sinking of the shafts in every mine appertaining to the company? I had verified this prior to Mr. Bell's arrival, and had turned my attention to working near the surface, and had made discoveries on the Paven lode to such an extent that if followed up by him the company would now be in receipt of good monthly remittances. The company possess an immense superficial area on the backs of the various lodes, and in almost every instance where a trial has been made gold is found to exist in not only paying quantities, but in many cases from 1 to 10 ozs. per ton, and which can be verified by all acquainted with that mining district.

I could not avoid the running together of the mines, owing to reasons assigned in my former letter, but they were left in the condition I described. I am glad Mr. Bell so openly acknowledged that the Consuelo had fallen in three times during his management. This only shows that he has been subjected to the same vicissitudes as those to which I was exposed, but I beg to remind him with regard to stopping and securing the ground in Consuelo that I cautioned him plainly before I left that it would be the case, from the manner in which he was having it done, which caused an unseemly display of feeling on his part. I will not, however, pursue this subject. On ascertaining from Mr. Bell that he had decided upon erecting the steam-stamps at Santo Domingo, I urgently advised him to do it at Paven, but this he declined to do; yet in his letter, dated April 6, 1868, to the board, a few days before I left, he states—"With 24 heads of stamps at Paven this lode will pay well; it could be mined, and the gold returned for 14s. per ton, and all above that would be profit." Surely the trite old adage of "too many cooks will spoil the broth" will well apply here. I have no hesitation in saying even now after so much money has been expended in these mines that with an additional capital of 5000l. or 10,000l., and unbiased management, I would bring those mines into a dividend-paying state for six months, and that I would undertake to do so on condition of receiving no remuneration if I failed.

I thank you sincerely for the insertion of my former letter, and trust you will consider this sufficiently important to occupy a space in your next issue.

W. C. PAUL.

#### ST. JOHN DEL REY MINING COMPANY.

SIR,—Judging from the tenor of the correspondence which has appeared in the *Mining Journal*, there is evidently an uneasy feeling existing among the general body of shareholders. Hitherto they have been afraid to admit that their property is in a very serious position, doubtless hoping, with a Micawberian philosophy, that something might "turn up" to encourage them to proceed. This illusion, however, is being rapidly dispelled by ugly facts, and it is feared that the once prosperous Bahu will, after some years of profitless expenditure, be a practical illustration of fabled Pandora's Box. When Bahu was in full course of working, and dividends were being distributed, it was admitted on all hands that the profits were realised not from mineral of high produce, but from comparatively poor stuff, worked upon a large scale, and that those profits would cease unless the operations were continued upon that scale was a fact of which every shareholder and every practical man was perfectly aware. It was acknowledged when the lamentable accident occurred by which the great extent of "stopping ground," that had taken many years to open out, ran together, and became a dangerous mass of debris, the whole aspect of affairs changed, for the mine could no longer be worked upon a large scale, as the supply of stuff was irretrievably cut off, and the alternative adopted was to open up a new mine, with the hope of ultimately producing profitable results. But, let me ask, do the shareholders really know what is meant by opening up a mine of this character and magnitude? It is a very fair calculation that at least five years must elapse before the two new shafts can be sunk to the depth of 170 fms., although I believe—and I am not speaking without some authority upon the subject—that they will take very much longer. The progress of sinking must not be judged by what can be done in the first 20 fms., as the upper strata are generally very soft, and comparatively easily removed—the real troubles and difficulties commence after that depth has been attained. Allowing, however, that five years will see the shafts nearly 200 fms. down, the lode has then to be laid open in such manner that it may be subsequently advantageously removed. Now, here is the important point—levels will have to be driven on the course or run of the lode, and winzes sunk and rises put up, in order to give ventilation, and all this before anything like a decent quantity of stuff can be raised. By the time this work is accomplished five years more will probably have passed away, making it ten years before the mine will be in a condition to advantageously produce ore in sufficiently appreciable quantities to turn the balance in favour of the shareholders. My object in writing to you is to endeavour to ascertain through your columns the opinion of the shareholders generally as to the advisability of empowering the board to appropriate what remains of the reserve fund in the purchase and development of some good mine in Brazil, that, like the now exhausted Bahu, may by its return meet a portion of the outlay incurred in its development. Surely, this would be a much wiser policy than the costly proceeding of re-opening an old deep mine, and the more especially when mines with lodes of at least equal value and undeveloped can be readily secured upon advantageous terms. As far as Bahu is concerned, we know that cannot yield any ore till the enormous depth of 170 fms. has been reached; and, therefore, would it not be in every way preferable to expend our resources in the direction I have indicated, rather than in the way they are now being gradually reduced?

X. Y. Z.

#### WEST VAN MINE.

SIR,—I see in last week's *Journal*, under Mining Notabilia, a correspondent says this mine is situated 2½ miles from the "celebrated Van Mine;" this is a mistake, and needs correction, as both properties join each other, and the respective operations are scarcely ½ mile apart. There can be no question of its being the same lode, whether the results prove equal or otherwise. West Van Mine was formerly called Penclun, worked by a private party; it is now being worked by a company of gentlemen of the highest respectability, and to talk of any other West Van can only Van and those who are unequalled in the neighbourhood.—*Trelagen, March 9.*

JOHN LEAK.

#### CHIVERTON—MINERAL BOTTOM.

SIR,—Why cannot we go on as we are? Mineral Bottom has accepted Mr. Peter's decision as to the boundary, and Chiverton prefers a peaceful settlement to the expense and uncertainties of law. Then, why not let the matter drop? But, no; certain shareholders in Chiverton, who are said to have taken a large interest in Mineral Bottom, now propose that there should be an amalgamation of the two. Mineral Bottom, they say, extends much longer on the north and south lode than Chiverton, and is, therefore, more valuable; but the shareholders are prepared to act generously towards Chiverton; and if the Chiverton shareholders should only propose an alliance, such a proposal would be favourably received. The proposal is that the two mines should be worked as one, and that the surface should be on the part of Mineral Bottom. I do not wish to say a word in disparagement of Mineral Bottom. I have not yet heard an unbiased opinion on the discovery lately made there. No doubt they have a valuable sett; but before there is an amalgamation a careful estimate as to the intrinsic value of the two properties must be made by some practical men. We can, however, form some idea of the value of Chiverton when we know that it has all the rich West Chiverton lodes passing through the sett, not one of which has as yet been worked, and also some very rich veins which have been worked in the past, and which are still open to the surface. The Mineral Bottom lodes are parallel to West Chiverton, and it is doubtful whether they are embedded for any distance in the necessary clay; besides which, their most promising east and west lode underlies into Chiverton at about 60 fathoms deep, and their shoots of ore in the north and south lode dip south, or into Chiverton. We have been kept long enough in the dark as to the future prospects of Chiverton, and it is quite time that the committee, who have the power, should call a meeting of shareholders.

March 11.

A SHAREHOLDER.

#### THE LLANDLOES MINING DISTRICT.

SIR,—Seeing the remarks on the Van Mine in last week's *Journal* induces me to offer some additional remarks of which the district, Van and Pen-y-Clyn, are the centre, from the great success which has attended exploration there. Although the Van now ranks first in this neighbourhood, I consider there are many undiscovered lead mines quite equal to it, and that Llandloes will one day be a very flourishing mining district. The Van lode may be traced for no less than eight miles in length. Commencing at the furthest point west, it runs through the Wye, West Nanty, Gyffron, Aberdunant, Bryntall, Pen-y-Clyn, the Van, East Van, Langodan, and, lastly, Fwch-Glas. The whole of these sets are held by different parties, only three of which have been worked to any extent—Pen-y-Clyn, at one time very rich for lead, making to the soil; Bryntall, from which quantities of lead have been sold, and in which still remains a great deal of very promising ground unexplored; and the Van. All the rest of the mines mentioned above have scarcely been tried at all. How is it possible that in all this run of ground the two small spots, Van and Pen-y-Clyn, are the only rich ones, in such a strong champion lode, 30 feet wide in many places, and running through a lead-bearing stratum—killas, mixed with courses of griststone—and having very rich characteristics of the best lead-producing districts? In my opinion there are many fine mines to be discovered here yet. Not only is there the Van lode, but also Bryntall and other mines to the south, and undoubtedly many parallel lodes which have yet to be discovered, as several of the veins in the well-known Cardigan district must cross about this point. There is one peculiarity about this Van lode—the emission of gas, the composition of which or the cause for I have not been able to ascertain; it occurs in several places, particularly in the bottom of the Van, and is found again in Langodan, where the lode has lately been opened. East of Langodan lies Fwch-Glas, a very promising piece of ground, through which the same lode runs. This ground I have lately secured, but from want of capital have not yet done anything towards working it. At a small expense the lode might be proved. There is plenty of water running through the ground, available for working a small wheel, with which a shaft might be sunk, and cross-cut driven to get into the lode. If someone would join me in making this trial, I have no doubt good lead would be found, eventually leading to the discovery of one of the rich mines which are sure to exist in this run of ground.

WM. HANCOCK.

**CORNISH PUMPING ENGINES.**—The number of pumping-engines reported for January is 18. They have consumed 1882 tons of coal, and lifted 150 million tons of water 10 fms. high. The average duty of the whole is, therefore, 53,800,000 lbs., lifted 1 ft. high, by the consumption of 112 lbs. of coal. The following engines have exceeded the average duty:—

Dolcoath—Harriett's 60 in.	Millions	53.2
Great Work—Leed's 60 in.		54.6
North Wheal Crofty—Trevenen's 50 in.		70.5
South Wheal Francis—Marriott's 75 in.		62.2
West Chiverton—Harvey's 50 in.		52.5
West Wheal Seton—Harvey's 55 in.		52.5
Wheal Seton—Tilly's 70 in.		69.8

**LONDON GENERAL OMNIBUS COMPANY.**—The traffic receipts for the week ending March 7 amounted to 9906l. 8s. 9d.

## Meetings of Public Companies.

### GREAT WESTERN MINING COMPANY.

The first general meeting of shareholders was held at the offices, Austinfrans, on Tuesday,—Mr. EDWARD COOKE in the chair.

Mr. J. H. MURCHISON read the notice convening the meeting.

The CHAIRMAN said, before proceeding to the business of the meeting it would, probably, not be out of place, and the more especially as there were several present who were not previously associated with the mines, were he to briefly recount the circumstances under which they had become the property of the Great Western Mining Company. Sympathetically with the utter prostration which pervaded the whole commercial world some three years since, mining became depressed, consequent upon the abnormal value to which all descriptions of metals were reduced. The disastrous panic of 1866 so quickly succeeding the disruption in America, which up to that time had been one of our most important consumers of tin, sufficiently accounts for the fact that the value of that metal was exceptionally depressed. At that time tin was selling at 30l. per ton less than at the present time, and it was extremely difficult, if not impossible, to get shareholders to respond to calls to develop any legitimate enterprise, and hence it was those then interested in the mines declined to provide the means to carry on the works with an energy and upon a scale which it was essential to the property to maintain. The engine-power had proved itself equal to take the mine 40 fathoms below adit, or 80 fathoms from surface, but to increase the depth necessitated increased steam-power. For the reasons he had already stated, capital could not be obtained to purchase and erect additional machinery, and the shareholders elected to dissolve the company. It was thought at the time by all practical men that even with tin at its then value, it was a most suicidal course to adopt, inasmuch as although the property had yielded considerable dividends, it was for all practical purposes really undeveloped, and that it only required depth to make it a permanently valuable tin mine. In accordance, however, with the resolution passed by the shareholders, the property was sold by public auction, and the purchaser in the most spirited and enterprising manner, and notwithstanding the depressed condition of the tin market, carried on its development up to the time it was purchased by the present company. Here he might mention that the property had been secured upon exceedingly advantageous terms, for by the payment of 6000l. the shareholders had not only secured the mines, but also a plant and machinery which must have cost three times that amount; therefore, there could be no doubt the property had been acquired at a most moderate price. It was, true, true that the mine was not yet opened up, but it was not all to admit that there were abundant reasons for looking forward with confidence to a most profitable issue. (Hear, hear.) A 70-in. cylinder engine, two 10-ton boilers, engine-house, and other materials had been purchased for 550l., and the new shaft was being prepared; that engine, it was computed, would take the mine to a depth of at least 100 fathoms deeper than the present operations. He had deemed it necessary to make these few remarks, in order that every shareholder should be fully acquainted with the whole of the circumstances connected with the inception of the enterprise in its present form. (Hear, hear.) He would now ask Mr. Murchison to read the report of the agents.

Mr. MURCHISON read the report, as follows:—  
March 8.—Fisher's Lode: Thomas's engine-shaft is enlarged 26 fms. from surface; good progress has been made, and we are glad to say we expect to get the shaft down to the 20 fm. level, below adit, by the time the engine is ready to work. The rise in the back of the 10 fm. level, below adit, is risen towards this shaft 6 fms. The 20 fm. level is driving east of the Pressure shaft by eight men, at 3l. 10s. per fm.; the lode is worth from 10l. to 12l. per fm. As soon as Thomas's engine-shaft gets to this level we shall drive both east and west on the south lode, and from present appearances open up a rich piece of ground quickly, the lode being favourable and easy for exploring. In the rise in the back of the deep adit, west of Jones's shaft, the lode is worth 4l. per fathom. The 30 fm. level, below adit, is driving east of Anne's engine-shaft; the lode is 3 feet wide, worth 3l. 10s. per fathom; this end is opening up ground that will be taken away by tributaries at a profit.—Middle Lode: At Curtis's flat-rod shaft we have cut plat, fixed pent-house, and commenced sinking the shaft below the 20; the lode is 18 in. wide, worth 3l. per fathom. The 20 fm. level is driving east of this shaft, at 5l. per fathom; the lode is 3 ft. wide, worth 3l. 10s. per fathom; we expect to have an improvement in this end in a few fathoms more driving. The end west of this shaft is suspended for the present, in consequence of an accident to the engine. The 20 fm. level is driving east of Curtis's shaft, at 5l. per fathom; the lode is 12 in. wide, worth 3l. 10s. per fathom; this end is opening up profitable ground.—Caunter Lode: The 20 is driving east of Curtis's shaft at 3l. 10s. per fathom; the lode is 10 in. wide, producing tinstone that will leave a profit on stamping; judging from the appearance of the lode in the level above, we may reasonably expect an improvement in about 10 or 12 fathoms more driving. The 17 fm. level is driving east of Curtis's shaft at 1l. 15s. per fathom, and 15s. in 1l. for tin; the lode is 6 in. wide, worth 3l. per fathom; we expect to cut Stevens's lode at this end in a few fathoms more driving, when a good lode may be expected at or near the point of intersection.—South Lode: The adit level is driving west of White's shaft at 2l. 10s. per fathom, and 15s. in 1l. for tin; the lode is 1 ft. wide, producing tinstone of low quality. In our tribute department we have 50 men employed, at tributes varying from 5s. to 15s. in 1l., at a standard of 60l. per ton for tin, the tributes paying all expenses. There are employed in the mines 201 persons. At shafts we have removed the casing from its former position, and commenced building a house for its reception in connection with our present dressing-floors, and when completed will effect a great saving. We shall commence to take out the 70-in. cylinder engine, which is now at Old Wheal Neptune, in a day or two, and erect it at Thomas's shaft as soon as circumstances will admit, which, when erected, will enable us to work on the long run of rich tin ground gone down in the bottom levels. With respect to future prospects, we have every reason to believe, from the appearance of the lodes in the bottom levels, that the mine, when fully developed, will prove equal to our most sanguine expectations, and be in the dividend list in a comparatively short space of time.—EDWARD ROGERS, EDMUND ROGERS.

A statement of accounts was then submitted, which showed a credit balance, including December cost, merchants' bills, and ore sold, of 6033l. 15s. 3d.

The CHAIRMAN thought he might incidentally mention that this company had not been started with the view of discovering a mine, for that had already been done; in fact, as the accounts showed, the December operations had resulted in an actual profit.—Capt. ROGERS, in reply to a question, stated there were four engines belonging to the company, independently of a large one just purchased.

Mr. PETER WATSON asked when it was thought the 70-in. cylinder pumping-engine would be erected?—Capt. ROGERS said he calculated it would be at 1l. 15s. per fm., by which time the shaft would be cut down and in readiness for the engine.

Mr. HAMILTON enquired if the main or new engine-shaft would be sunk on the course of the lode?—Capt. ROGERS replied in the negative, stating that it would be a perpendicular shaft, and the lode underlie towards the shaft.

Mr. HAMILTON asked what distance the cross-cuts would have to be driven at the next level?—Capt. ROGERS said that the south lode would be cut almost in the shaft, that another lode would be cut at a distance of about 9 ft., and another about 7 fms. There were three distinct lodes, all underlying towards the shaft. There were eight or ten masterly lodes, including the smaller ones, there were probably a score.

Mr. PETER WATSON added that the object of sinking the main engine-shaft was to intersect a series of lodes which came together in depth, and when the large pumping-engine had been got to work a line of flat-rods would be connected with Pressure shaft, where there was a very rich lode.

Mr. HAMILTON asked if the 40 fm. level was under water?—Capt. ROGERS said it was dry, and that the lode there was about 15 to 20 fathoms long, and worth something like 40l. per fathom.

A SHAREHOLDER asked the cost of taking away the lode?—Capt. ROGERS said that it could be taken away for 2s. 6d. in 1l. in places.

The CHAIRMAN said he deemed it but right to remind the shareholders that in reading the reports of the mine they should always recollect the ore ground can be taken away for a very small amount. If they had a lode worth only (say) 4l. to 5l. per fathom, and it could be worked for 30s. per fathom, it was more profitable to the shareholders than a lode in harder ground, which would cost considerably more to remove.

Mr. HAMILTON asked the manager with what amount of stamping-power the mine was provided?—Capt. ROGERS said they possessed sufficient stamping-power for years to come—that is to say, they would have to erect more heads, but they were on the mine ready to be erected. At present there were 24 heads at work, but they would increase that number by the 40 now on the mine, and paid for.—Mr. PETER WATSON wished to know the quantity of tin that would be raised per month when the 34 heads were ready to go to work?—Capt. ROGERS said that the mine would be able to raise about 30 tons per month. He added that the permanent shaft was 2 ft. long by 7 ft. wide.

The CHAIRMAN would like to ask Capt. ROGERS whether he considered 6000l. would be sufficient capital to develop the property and bring it into a satisfactory condition?—Capt. ROGERS did not think they would require that amount of capital by about 1000l. or 1500l. There would be two or three engines for sale, which would realise probably 1000l. He had no hesitation in saying that if the price of tin kept up no more calls would be required. (Hear, hear.)

Mr. WILLIAMS inquired the difference in the current price of tin and that at which it stood when the mines became the property of the company?—The CHAIRMAN said they were now getting 69l., whereas at the time the mines were sold the price realised was 41l. per ton, some three years ago.

Mr. PETER WATSON said when the mines were stopped the average price of tin was about 41l. per ton, and now it was 69l., a difference of something like 30l. per ton, upon only 10 tons per month, was an increase on the same quantity of 300l. When tin was at only 41l. the loss did not exceed 120l. to 150l. per month, and at that time there were one or four Cornish trial engines that were paying dividends; but he thought he might safely say that now three-fourths of the tin mines were either paying dividends, or at least meeting their costs. It was the exception to find a tin mine making calls of any large amount.

Mr. W. H. LANTON (late of the Kennall Gunpowder Company) said he could congratulate the shareholders upon the acquisition of a very valuable property. As a resident in the locality, he had ample opportunities of judging of its merits, and he did not hesitate to say that there was no sett in the neighbourhood that stood more highly in the estimation of practical men than the Great Western Mines. He then moved.

That the encouraging reports of the agents and the accounts now presented, showing credit balance 6033l. 15s. 3d., and the same are hereby passed and adopted.

Mr. WILLIAMS seconded the proposition.

The CHAIRMAN regretted the unavoidable absence of Mr. R. R. Michell, as he could have afforded some very valuable information relative to this property.

Mr. PETER WATSON added that Mr. Michell, by the influential position he held in the locality and in the county of Cornwall, had been of very essential assistance to the company, and had, moreover, taken a very large interest in it. Capt. REED, who spoke as a shareholder, said he had several friends desirous of taking a large interest, provided the shares could be obtained at par. As the manager of two mines in the immediate locality, he had a practical knowledge of the property belonging to this company, having inspected it for different parties upon several occasions. He could bear his testimony to all Capt. ROGERS had said about it. He (Capt. Reed) considered it was but still in its infancy, and that depth only was required to prove its intrinsic value. As stated by

Capt. ROGERS, there were numerous lodes, each of which in the bottom level was rich indeed for tin, being in places worth 30l. to 40l. per fathom, which in such inexpensive ground to work would give large profits to the shareholders. By sinking the shaft, and extending the levels, there was no reason whatever to doubt that the Great Western Mines would prove a rich and permanently valuable property.

The CHAIRMAN, in reply to a question, stated that while the members of the committee were upon the mine they obtained the best information they could as to the proper position of the engine-shaft. This step, he wished them to understand, was not taken because they in any way doubted the judgment of Capt. ROGERS, but rather to strengthen his opinion, and thus prevent the possibility of an error in this vitally important detail. Among other practical authorities called in was Capt. Harris, the manager of Great Wheal Vor, whose opinion is as follows:—

March 6.—Having visited these mines on Thursday last, and examined the plans and sections, and also inspected the surface of the sett, I am of opinion that the new engine-shaft is sinking in the right place to prove the different lodes which will be intersected in depth about this point, where good results may fairly be expected. The shaft is progressing fast, and all the works of the mine going on most satisfactorily, and the ground now exploring is opening out very well.—STEPHEN HARRIS (Manager of Great Wheal Vor).

The CHAIRMAN said as Capt. Reed was present he would ask his opinion upon the point.

Captain REED said the shaft was the one he had recommended in his report. Its site was in every respect suitable for the main engine-shaft, as it would command the whole of the lodes. The motion adopting the report and accounts was then put, and carried unanimously.

The CHAIRMAN said the next resolution was that referring to the payment for the property, as set forth in the prospectus. A copy of it had been sent to each shareholder, and, therefore, he would content himself by proposing:—

"That in order to carry out the terms with the proprietor, mentioned in the prospectus, the sum of 6000l. be paid to him for the plant, engines, machinery, materials, pitwork, pumps, dressing-houses, surface-works, and other erections thereon, out of the 12,000l. called up on the shares of this company."

The resolution being duly seconded was put, and carried unanimously. It was also resolved:—

"That Messrs. R. R. Michell, F. M. Williams, M.P., W. H. Lanyon, Edward Cooke, and J. Ross be appointed the committee of management."

"That the best thanks of the shareholders be given to Messrs. R. R. Michell, W. H. Lanyon, and E. Cooke, for their attention to the affairs of the company to this date."

The proceedings closed with a vote of thanks to the Chairman.

### GREAT NORTH LAXEY MINING COMPANY.

The annual general meeting of shareholders was held at the offices, Austinfrans, on Thursday,—Mr. BULLER in the chair.

A statement of accounts to end of January was submitted, which showed a balance of assets over liabilities of 144, 9s. 2d.

The report of the directors was read, as follows:—

1. In presenting you with Capt. Rowe's report of the past year's operations, your directors believe that they can congratulate you on the considerably improved state of the mine.—2. During the unprecedented dry summer of 1868 the pumping-wheel could not drain the bottom of the mine, and, in consequence, the sinking of the shaft was suspended for two months; but there have been 9 fms. 4 ft. sunk since last meeting, and new levels have been lowered at the 110 and 120 fms. level, the lode in the north end producing a little ore, and having the appearance of an early improvement. The other points in the mine are described fully in Capt. Rowe's report.—3. Since Capt. Rowe wrote his report your directors have had an opportunity of personally consulting with him, and he agrees that the sinking of the north shaft may be postponed till the results of the drives in that direction are further ascertained.—4. There have been sold during the year 115 tons of lead ore, for 1517l., making the total sold by the present company 344 tons, for 4649l.—5. After giving the necessary formal notices, and allowing the utmost leniency to the different holders, your directors have felt themselves compelled to forfeit 36 shares, upon which two to four calls are in arrears.—6. The whole of the capital being called up, and the available assets at the end of January being only about sufficient to meet the liabilities to the same date, your directors have given notice of an extraordinary general meeting, to pass a special resolution authorising the directors to increase the capital of the company by the issue of 2500 ordinary shares, of 1l. each, making the whole number of the shares of the company 15,000. Your directors advise that this step should be adopted, the shares to be offered *pro rata* to the present shareholders who may accept the same by a fixed date, any of the said shares not so accepted to be offered to other parties, as the directors think fit. A resolution to this effect will be submitted for your approval.—7. The whole of the directors and the auditor retire from office, and offer themselves for re-election.

The report of the manager was read, as follows:—

March 8.—The engine-shaft has been completed to the 110, new and stronger pump-rooms have been fixed, a lodge cut at the 110, and the said level extended south 3 fms., and north 8 fms.; in the former direction the lode is small and poor, which was its character in sinking, and remains so in the bottom of the shaft, but in driving north we soon got into a larger and more promising lode; in the present end it is 4 ft. wide, with a large rough, or cavity, in the middle (being a most unusual occurrence here, although plentiful enough in Great Laxe), and, in consequence, we are now able to make great progress in driving ahead. So far, we can only report a little lead and jack, the remainder of the lode being composed of large loose lumps of quartz, highly mineralised, and from which we judge the end is not very far off something good; in fact, from appearances, I expect the level daily to come upon a rich lode. In my last annual report I informed you of a change we had met with in the nature and underlie of the lode a little below the 96. So far it certainly appears that the views I and others then entertained respecting it have not been realised, by a complete change of underlie from west to east, the lode in the bottom, and northwards especially, having now only a perpendicular bearing. The circumstance referred to appears to consist of a split gone off from the lode with an underlie to the east, but pointing to a junction again with the main lode northwards, which will be met with as we drive on the 110 fm. level. The 96 is now driven about 20 fathoms north of the shaft, through a lode averaging 2½ feet wide, and varying in value from ½ to 1 ton of lead per fathom, but the present end is only of the former value; judging from the level above, we may now expect a short piece of barren ground. We have one set of stopes working in the roof of this level worth about 1 ton of lead per fathom. The 84 has been driven north since the last meeting about 20 fathoms, the last four of which are in a highly encouraging looking lode, worth 1 ton of lead per fathom; and the end is now a little beyond the line of the old shaft, which is sunk to the 37, and from which down to the 84 the ground stands in whole. The importance of this discovery, therefore, speaks for itself, the one and great point now being how long and how far the present ore-bearing lode in this level is likely to continue. Should it hold, as it now is, for any considerable length, and as I fully expect, be also overtaken and discovered setting down in the 96 and 110 fathom levels northward, the value of the mine will be safely and satisfactorily established; and of this there is every promise at this moment. After another month I intend to commence a rise in the roof of the 84, towards the old shaft, and which will aid our returns of lead as well; and when we have advanced further into the spring of the year I propose, with your concurrence, to resume the sinking of the said shaft, which the 84, I expect, will have drained. Referring to the south part of the mine, our chief operations have been in following a small pipe of ore from the roof of the 60, and which is now up 16 fms. This pipe is about 3 fms. long, and sometimes worth 2 tons of lead per fathom, but very changeable. We have driven the 27 shaft for the purpose of intercepting it, and appear now to have done so, having in the end a large lode, 6 ft. wide, worth about ½ ton of lead per fathom. This level has an exceedingly promising piece of ground before it, going towards Great Laxe, in which cross and caunter lodes are known to exist, and, therefore, independently and apart from the northern ground, possesses excellent chances for discovery, sufficient to constitute a great and good mine. To this end, however, in order to make desirable and long-looked-for result, the work necessary to be vigorously carried out is the extension of the 110, 96, 84, and 73 fm. levels northward, and the sinking of the first engine-shaft below the 37; and, in order to prove the south end of the mine, the 27 should be continued, and the 60 ought also to be driven; and, in the prosecution of the work so marked out, I have the firmest faith that Great North Laxe will yet be crowned with success. We have now three good water-wheels, with new and improved pumping-gear, which, with the other machinery on the mine, are all in sound working order.—R. Rowe.

The CHAIRMAN moved that the report and balance-sheet be received and adopted. The information contained in the report of the directors, and that of the manager, placed the shareholders in possession of all the facts the board had to communicate, and as Capt. Rowe was present to reply to any question that might be put to him, he (the Chairman) would content himself by making one remark with reference to the accounts, and it was to this effect—that although the accounts showed a balance of assets over liabilities of only a few pounds, the item referred to was the returns of the mine, in addition to which there was the value of the machinery plant, and the least of the property. The machinery on the mine, Capt. Rowe estimates, would realise between 2000l. and 3000l. He mentioned this to show that those who subscribed the additional capital had ample security for it.

Mr. TUXFORD seconded the motion for the adoption of the report.

Mr. PETER WATSON asked if the amount of additional capital proposed to be raised would be sufficient to thoroughly develop the mine?

Capt. Rowe replied by stating that if they could only get into ore in the 73, which he fully expected would soon be the case, the returns would be doubled. The amount of 2500l. was sufficient, as far as he could judge, to launch the mine into success. As he had said, if the discovery in the 84 north was corroborated in the 73, which level they had to drive some 10 or 11 fathoms, then he considered the returns would be fully doubled, without a corresponding increase in the expenditure. In that case there would be a monthly deficiency of probably 40l. or 50l.; but against that, if in the 110, where there were very strong indications they were on the brink of ore ground, they made a discovery, the results would overlap the deficiency at the other part of the mine. The bunches of ore in Great Laxe all dipped north, and there was clearly the same tendency in the bunches in Great North Laxe. In driving the adit level stones of ore were continually met with, and he always expected good ore would be found in the lower levels, that were partly driven under the adit, and that the result of the 84 was a most material point, inasmuch as in that level they had a good wide, productive lode; indeed, the best looking vein in the mine, and there was no reason whatever why it should not prove equally productive in the 73 fm. level. If results prove as he anticipated, they would have four fresh sources of producing ore, for there would be eight stopes instead of four, by which there would be double the returns. In addition, he looked forward to make a discovery in the regular ore ground in the 110 fm. level, where there is every appearance of coming into a valuable piece of ground.

Mr. EDWARD COOKE enquired the object of having this new shaft so near the main shaft?—Capt. ROWE said the south shaft was originally intended as a water shaft. He believed these bunches would, like at Great Laxe, resolve themselves into one regular body of ore when the ore-bearing depth was reached.

Mr. J. Y. WATSON asked how long it would be before the returns would be increased to the extent indicated by the manager?—Capt. ROWE anticipated that the returns would gradually increase from the present time, but it would, probably, be something like six months before they were doubled. Stopping would be commenced next month in the roof of the 84, and that would give



them some assistance. In Great Laxey the branches of ore came together between the 110 and 120 fm. levels, and that made it the great success it is; and he considered the same result would be found in Great North Laxey.

Mr. J. Y. WATSON reminded Capt. Rowe that Great Laxey paid dividends from ore from the 60 fm. level.

Capt. CARLTON asked what depth the 60 in Great Laxey was in Great North Laxey?—Capt. Rowe said there was a difference of about 30 fms.; but it should be remembered that in both mines the depth from surface was in the same proportion, and might have the same effect. Under these circumstances, it might not be necessary to go to the corresponding depth of Great Laxey to realise the same results.

The motion adopting the report and balance-sheet was carried unanimously. Upon the proposition of Mr. E. COOK, seconded by Mr. WHITE, the retiring directors were re-elected. Mr. Brandt was re-elected auditor.

A resolution was passed that the next annual meeting be held in April, 1870. A vote of thanks was passed to the Chairman, directors, and manager, which concluded the business of the ordinary meeting.

An extraordinary general meeting was then held, when it was unanimously resolved that the directors be authorised to increase the capital by the creation and issue of 2500 ordinary shares, of 1l. each, payable forthwith, such shares to be offered one for every five.

The CHAIRMAN mentioned that holders of less than five shares would not be entitled to any of the new issue.

A vote of thanks to the Chairman concluded the proceedings.

#### THE ELBE COLLIERY COMPANY.

At the annual meeting of shareholders, held at the offices of the company, yesterday, the following report of the directors was read and adopted:—

Herewith you have a copy of the balance-sheet and revenue account of this company, closed to Dec. 31, 1868. The results have not been so satisfactory as could be wished, owing chiefly to the excessive drought this last summer, by which the demand for coal was considerably lessened, so that the—

Deliveries of coal in 1868 were.....Tons 76,503=111,274 flor. 95 kr.  
Against ditto, 1867.....84,053=122,928 46

Showing a decrease of.....7,550=11,653 51  
We are, however, happy to say that since Nov. 1 the deliveries have improved, and as the North Bohemian Railway was opened on Jan. 16 last, we look for a large demand by that route as soon as the railway is provided with sufficient rolling stock for the traffic. Some further reductions are expected in the railway freight, which will also improve the demand.

Messrs. Fuller and Stace visited the colliery in April last, when your former superintendent, Mr. Reffen, resigned his appointment. Mr. J. F. Stace, at the request of the board, remained in Bohemia to adjust and arrange for the management of the works, and on June 1 appointed Mr. Richard Bell, mining engineer, in the place of Mr. Reffen, and we have every reason to believe that he will carry on the works to the satisfaction of the company. The pumping-shaft alterations, to adapt it for both pumping and drawing, having been completed, with all necessary works, and erection of our 32-horse power engine and drawing gear, we are now prepared for any increased demand for our coal.

By the Articles of Association two directors, Mr. W. H. Norton and Col. Grant Allau, now retire, and being eligible, offer themselves for re-election. Mr. G. A. Cape, the present auditor, will also be proposed for re-election.

#### GREAT MONA MINING COMPANY (LIMITED).

The annual general meeting of shareholders was held at the Clarence Hotel, Manchester, on Feb. 26.—Mr. JOHN MEGUM in the chair.

Mr. JOS. TAYLOR (the secretary) having read the notice convening the meeting, a statement of accounts and balance-sheet for the preceding year (copies of which had previously been issued to each shareholder) was submitted, and unanimously adopted by the meeting.

The agent's report (which gave general satisfaction) was then read:

Feb. 19.—Since the last ordinary general meeting the engine-shaft has been sunk rather more than 15 fms. We have also cut lodge, divided, cased, bedded, and fixed ladders, road, &c., and made the shaft good from the 23 to the 28 fm. level. During the whole of the sinking the lodge has produced copper, lead, and blende ores, but not sufficient for saving. For the last few fathoms sinking it has decidedly shown a better appearance than in any other part of the shaft—it is getting more rugged and porous, letting out more water, and the ground more mineralised; in fact, I have never seen it looking near so well for the production of ore in large quantities as it is at the present time. Our engine-shaft now being down 50 fms. below surface, I would advise that we sink about 9 ft. more for lodge and ford; and as soon as this is accomplished we begin to open out a 50, both north and south, to prove the ground in that direction. I would also recommend that as soon as this level is sufficiently advanced the sinking of the shaft should be continued, and the level referred to carried on at the same time. I would add that I have increased confidence in the mine, and seeing that I have fairly explored my frank opinion is that it will turn out to be a profitable and lasting concern. Our water-wheel, and all other machinery, both at surface and underground, are in good order, and are working well.—JOHN TREWIN.

Captain John Killo, and Mr. Joshua Moss, Sheffield, were then unanimously elected as directors, in the place of Messrs. John Tomkies and Thomas Götter, who retire by rotation, and to whom a vote of thanks was unanimously passed for their services.

This being the whole of the business for transaction at the general meeting, it was thereupon resolved into a special extraordinary meeting (due notice of which had been given), for the purpose of raising further capital, the necessary measures for which having been adopted a vote of thanks to the Chairman terminated the proceedings.

#### WEST CARADON MINING COMPANY.

A general meeting of shareholders was held at the offices, Bishops-gate-street, on Thursday.—Mr. HENRY MILFORD in the chair.

Mr. W. J. LAVINGTON (the secretary) read the notice convening the meeting, and the minutes of the last were confirmed.

A statement of accounts was submitted, which showed a loss upon the four months' operations of 1662l. 1s. 7d. The debit balance amounted to 1739l. 10s. 5d.

The report of the agents was read, as follows:—

March 9.—In submitting to you our four-monthly report, for the general meeting, to be held on the 11th instant, we beg to say that our operations have been in driving the 170 fathom level east of cross-cut, on the south part of Allen's lode, which is extended 7 fathoms beyond a split from the main cross-course. In this drive the lode has been very changeable, sometimes producing saving work, and at other times only producing stones of ore. The lode in the present end is 1½ ft. wide, with such appearances as anyone might reasonably expect would lead to something good. This end cannot be far from the main cross-course, judging from where we have seen it in the 80 fathom level, and seeing that South Caradon has a good lode at about this point, there must be great chances of success on our side of meeting with ore between the cross-course referred to and the South Caradon boundary, the distance being only 13 fathoms, which is in whole ground from this point to the 80 fathom level. The 170 has been extended 24 fathoms north of this level, in the cross-course referred to above; in this drive we have intersected several branches, the most masterly one being within 10 fathoms from where we first commenced to drive, on this we have opened out 2 fathoms; the lode or branch is very regular, and about 6 inches wide, containing some good yellow ore, but not sufficient to value. In consequence of the ground being very hard we have suspended this end for the present, and have put the men to continue on the cross-cut, in order to reach the point left off by South Caradon, where they have a good lode of ore close to our boundary; a short time will accomplish this object, as the plan will show you. The 104, on Dunstan's lode, is communicated to the winze sunk below the 114, in Gonaema, which has enabled us to stop both east and west of this winze, each stop being worth 2 tons of copper ore per fathom. In the 17, west of cross-cut, on the north part of Gilpin's lode, we have an excellent piece of unexplored ground for upwards of 100 fathoms in length; in the end we have a leader, and although small it is producing some rich ore.—Marina's: Since the last meeting we have fixed the drawing-lift in the 30, cut a plat, cased and divided the shaft, and, as well, done all the other necessary work in connection therewith from the 20 to the 30 fathom levels. The sinking of this shaft has again been resumed by nine men; and as an inducement to get them to work late on Saturday nights, and to commence early on Monday morning, we have given them 5 fathoms, as a bargain, at 18l. per fathom, so as to push it down as quickly as possible. The shaft is now down about 3½ fathoms below the 30 fathom level, and by the present class of ground we hope to reach a 40 fathom level in or about three months from this time. In driving the 30 fathom level cross-cut from this shaft we have already intersected four lodes; the last one cut in the extreme end north is opened on both east and west 9 fathoms, in as pretty a looking lode as can be seen at such a shallow depth. From this drive we have broken several tons of copper ore, and to show you the quality of it, we have forwarded you a few specimens for your inspection, which were broken to-day from the lode. We think this to be Allen's or the main lode, as the character of the stuff is just the same as where the lode first came productive in the eastern part of the mine, and which gave, as you are aware, large profits to the shareholders. In conclusion, you will see that the important points we are aiming at in the bottom of the mine will soon be accomplished; and in our opinion we are on the top of a shoot of ore in the think we are quite justified in saying that the result ere long will be the opening out of a good and lasting mine. We shall sample to-day (computed) 106 tons of copper ore, which is about 24 tons more than the last.—W. JOHNS, N. RICHARDS.

The CHAIRMAN moved that the accounts be passed and allowed, and that the reports be received and entered on the minutes. As to the accounts, while he could have hoped the results had been more satisfactory, it could not be regarded as an unfavourable feature that the loss was not so large as during the two months that contained in the report, he could not do better than to refer the shareholders to Mr. Peter Watson, who was not only the largest shareholder, but practically familiar with every detail connected with the property. He regretted their Chairman (Mr. Nicholson) was unavoidably absent, from indisposition.

Mr. W. H. LAXTON (late of the Kennell Gunpowder Company) said that having business in the neighbourhood some two or three weeks since he visited the mine, and the result of the information he obtained was that he became a shareholder. He found that the 180, in South Caradon, which had long been one of the best mines in Cornwall, was driven up close to West Caradon boundary, and that the end produced 5 tons of driven ore per fathom. He found that in the same level in West Caradon they expected soon to cut that lode, which he need hardly say was, *per se*, an important omen of success. He also found that Allen's lode, in Marina's shaft, presented the most encouraging prospects.

The CHAIRMAN said that the purser had written to the effect that as the operations in the bottom of the mine were now so near the point they had been so long talking about, it was of the utmost importance they should be continued. Mr. PETER WATSON said that some two and a-half years since he called attention to the large amount of unexplored ground west of the old workings. Looking at the number of lodes going in that direction, he considered it a desirable piece of ground to develop; and he did not at the time hesitate to support his opinion, as he purchased a very large interest in the mine, which he held to the present day. Those operations had now resulted in the finding of the best and most valuable lode lying upon the table—specimens of a lode from such a district augured well as to the future. Driving had been commenced in new ground for about 200 fms. on the course of the lode; in driving north and south there had been discovered four or five lodes, one of which had been driven upon for 9 or 10 fms. His opinion was that they were coming upon something very good. A great deal had been said about these deep workings. He had been told by one or two of the shareholders that the calls were too heavy, and the deep workings should be abandoned, but he (Mr. Watson) could inform them that if that part of the mine were abandoned the ground would be applied for by other parties—by the South Caradon adventurers—and for this reason, that they had a good course of ore driven on for several fathoms up to West Caradon boundary. The continuance of the deep workings would not increase the monthly cost more than (say) 60l. or 70l., for the engine must be kept going. Being so near these different important points, it was certainly cowardly to talk of abandoning them until the object for which they were commenced had been attained. As miners they must adopt for their motto, "Nothing venture, nothing have." As the largest shareholder, he recommended that they should make a call of 2l. per share, for certainly there were strong indications to encourage the shareholders to vigorously prosecute the mine.

The CHAIRMAN said, in confirmation of what had fallen from Mr. Watson, he might mention that Capt. Odgers, of Wheal Grenville, and Capt. Hancock, of North Wheal Chiverton, had inspected the mine, but neither of them advised the discontinuance of what was called the deep workings. The report was received, and ordered to be entered on the minutes, and the accounts were passed and allowed. A call of 2l. per share was made. Upon the proposition of Mr. FIDLER, seconded by Mr. MONTEPENNY, the committee of management were re-elected with thanks for past services. A vote of thanks to the Chairman terminated the proceedings.

#### DON PEDRO NORTH DEL REY GOLD MINING COMPANY.

The seventh general meeting of shareholders will be held at the London Tavern on Thursday (Mr. HENRY HAYMEN in the chair), when the following report will be presented:—

The gold raised during 1868 amounted to 204,652 ozs., or 23,613 ozs. troy, and has realised the sum of 89,901l. 11s. 5d. The entire cost for the same period has been 29,739l. 18s. 1d., the profit on the year's operations amounting to the sum of 60,172l. 6s. 3d. The dividends declared for the quarters ending March, June, and September, have absorbed 31,223l. 8s. 5d., leaving, with the amount carried forward for 1867, an available balance of 30,623l. 19s. 1d. This sum the directors propose to deal with as follows:—2500l. to the extinction of the preliminary expenses account; 3500l. to the reserve fund, increasing the balance at the credit of that account to 7000l.; 23,419l. 16s. 4d. to the payment of a dividend of 6s. per share, free of income tax, making, with the dividends already paid, a return for the year of 14s. per share, or 100 per cent, on the capital of the company; the balance of 1204l. 2s. 9d. being carried forward to the current year. These results the directors feel assured will be most gratifying to the proprietors; whilst similar, if not greater, returns may reasonably be looked forward to in 1869, the favourable opinions expressed by Capt. Treloar and the manager relative to the present state and prospects of the mine being in every way satisfactory. It will be seen from the reports that the reserves of ore are as extensive as at the beginning of 1868, and richer in auriferous quality; and that the rate of auriferous ground is of increased dimensions. The reserves alone are estimated at about 40,000 and 60,000 tons, capable of producing 4 to 6 ozs. to the ton. Captain Treloar, in the early part of 1868, availed himself of the opportunity which the termination of his first agreement with the company afforded him of visiting England, thereby securing the change which both his mind and body were in much need of. During his stay, the directors concluded an agreement with him to act as consulting engineer to the company for a further period of three years, and whilst doing so, being naturally anxious to record their high sense of the eminent services he had rendered to the company, they presented him with the sum of 1000l. by way of a suitable recognition of the board. Looking at the fact that Captain Treloar's skilful management has given the most complete satisfaction to the proprietors at large, the directors feel sure that the course they have adopted will meet with the full approval of the shareholders. On the completion of Captain Treloar's term of office, the management of the mines was entrusted to Mr. Francis S. Symons, who, having been for many years connected with Capt. Treloar in Brazil, was considered fully competent to undertake the duties. The shareholders will, doubtless, have observed with much satisfaction that Captain Treloar, on his return to the mines, expressed himself highly pleased with the manner in which Mr. Symons had conducted the establishment during his absence. The directors, being desirous of marking their appreciation of the energy and ability displayed by their secretary since the formation of the company, propose to confer upon him the appointment of managing director, he retaining, as heretofore, the active conduct of the affairs of the office. So soon, therefore, as the ordinary business shall have been concluded, an extraordinary general meeting will be held for the purpose of proposing the necessary addition to the Articles of Association for electing that officer. The accounts have been prepared to Dec. 31, 1868, and have been audited by Messrs. Quilter, Ball, and Co., whose report will be found annexed. In consequence of the lamented death of Mr. Robert Hesketh, and the resignation of Colonel Wilbraham, two vacancies have occurred in the direction during the past year, and Major-General D. Downing and Mr. William Haymen were in due course elected by the board to fill the vacant seats. The directors who retire by rotation are Major-General Downing and Mr. William Haymen, who, being eligible, offer themselves for re-election. The auditors of the company, Messrs. Quilter, Ball, and Co., also retire, and, being eligible, offer themselves for re-election.

#### ENGLISH ENTERPRISE IN PRUSSIA.

The coal fields of Westphalia have, during the past few years, proved more attractive to English capitalists than almost any industrial centre on the Continent; yet their commercial value is only now becoming developed to an extent to promise those who have provided the necessary capital an adequate return for their outlay. The operations carried on up to the present time prove these fields to be about 400 English square miles in extent, and within this area there are upwards of 60 workable seams, forming together upwards of 200 feet in thickness of pure coal, and it is calculated to contain 40,000,000,000 tons, or five times as much as the entire North of England district. The progress made in the development of the coal resources of the locality during the past 20 years has been enormous, the increase in the "get" having far exceeded anything ever seen even in England in a corresponding short space of time, for the "get," which was only 1,400,000 tons in 1847, increased to 3,600,000 in 1857, and to 10,500,000 tons in 1867. Nor has this increased demand any prejudicial influence on prices, the increased production of 15 per cent. per annum being accompanied by a positively increasing price in the market. The coal produced is of excellent quality, the upper seams being gas coal, the middle coking and steam coal, and the lower series smokeless anthracitic coal. The sole royalty payment is a Government tax of about 0½d. per ton, and the aggregate cost at the pit's bank of a colliery, raising from 600 to 1000 tons per day, does not exceed 5s. per ton, which leaves a margin of 1s. 6d. to 2s. per ton for profit.

Where collieries and iron works have been judiciously combined in the same concern the most favourable results have been obtained, and large and steady profits made; the success of the Phoenix and Hoerde Companies and others affording prominent examples. The production and manufacture of iron in Prussia progresses as rapidly as the coal production—the quantity of pig-iron manufactured having been 117,055 tons in 1846; 368,891 tons in 1856; and 803,552 tons in 1866. Of this production of raw iron, and subsequent manufacture into bars, plates, wire, &c., about four-fifths of the whole is confined to the Westphalia and Rhine district. All the highest qualities of iron for plates, wire, steel-making, &c., are produced in this locality. The steel works at Essen and those at Bochum, Hoerde, Witten, &c., are well known to be amongst the most important—the Essen Works undoubtedly the most important in the world. Our attention has been drawn to this subject by the perusal of a late report of the Prussian Mining and Iron Works Company, to the operations of which we have already frequently alluded in the Journal. Being well acquainted with all the details of the iron and coal trades of Westphalia—an acquaintance gained by many years residence in the district—Messrs. William and Thomas Mulvany were enabled, a few years since, to take advantage of an opportunity brought about by a general commercial depression for acquiring, upon extraordinary favourable terms, several properties, upon which all the available capital of those concerned had been exhausted before success had been achieved. After the proprietors of the Zollern Colliery had in vain endeavoured to raise a few thousands in the London market to relieve them of their debts and difficulties, and those concerned in the Vulkan Iron Works had been equally unsuccessful in the same direction, Messrs. Mulvany succeeded in acquiring one by one, at about one-fourth of their original cost, the several properties which now belong to the Prussian Mining and Iron Works Company, the operations of which will, it is anticipated, prove equally advantageous to shareholders and to the districts in which the properties are situated.

As an instance of the energy and enterprise of the Prussian Mining and Iron Works Company, it will suffice to state that they have already expended nearly 300,000l. out of their nominal capital of 360,000l., although they are only now entering upon that kind of work—the actual raising of coal—from which returns are to be anticipated. The iron works are already in operation, and with full employment secured for the whole of the present year, at prices which it is calculated will leave a profit which would be alone equal to a moderate dividend on the whole capital of the company. The property of the company is now very extensive, and when fully developed the shareholders will have no reason to regret their investment. It includes the

Erin Colliery, 2500 acres in extent, at which two pits are sunk, and from which regular sales of first-rate steam and coking coal will forthwith commence; the Hansa Colliery, 2000 acres in extent, and producing a high-class gas coal, sales of which are being prepared for; the Zollern Colliery, 3000 acres in extent, and producing gas and steam coal of good quality, the greatest difficulties for obtaining which have been already conquered; and the Vulkan Iron Works, with its four blast-furnaces, foundry, &c., which cannot fail to be of great value to the company, from the facilities it will offer for the construction and replacement of whatever machinery may hereafter be required. In addition to this the company have 142 concessions for iron mines in Nassau, Siegerland, Hessen, Rhine province, and Hanover, producing clayband (and brown coal), hematite, brown iron ore, with manganese, and sphatose iron ores, extending in the aggregate over 36,978 acres.

It appears that the total cost to this company of all the properties, and of the works executed upon them, up to June 30 of last year, was 292,692l., although up to that date the total expenditure by present and former companies had been 579,466l. Coupled with all this, there is the important fact that henceforward the facilities for getting the coal to market will be vastly greater. The Cologne and Minden Railway Company have obtained a concession from the Government to construct a line about ten miles in length, which will place the Erin and Zollern Collieries in direct connection with the main line; a line has already been completed to connect the Hansa therewith. Under these circumstances it is considered that the prosperity of the undertaking is assured, and it is mentioned as a fact especially calculated to inspire confidence that the company is not dependent upon any one concern for its prosperity, but comprises in its scope several distinct concerns, each in itself of a most promising character.

Some very interesting particulars concerning the industrial resources of Westphalia and the Ruhr basin collected by Mr. T. E. CLIFFE LESLIE, during a recent visit to the district, have been published in the "Fortnightly Review," wherein he remarks that 20 years ago the Ruhr basin was nowhere in the industrial race, now it produces nearly half as much coal as the Great Northern coal field of England; 20 years ago it had only just completed a single line of railway; now the basin is a network of branches, connecting not only the towns, but the principal manufacturing and collieries with the three main lines which traverse it. The production of coal, he shows, to have advanced from 1,777,454 tons in 1851, to 10,526,015 tons in 1867, and he observes that this increase is mainly attributable to the introduction of railways, and the low charge for the carriage of coal. Down to 1851 the Ruhr and the Rhine were the only means of transport in districts beyond the immediate neighbourhood of the collieries, and the greater part of the coal was of an inferior kind, raised where it came to the surface by small collieries along the Ruhr. In 1851 the Cologne-Minden Railway came into use for the transport of coal, and led not only to deep-pit sinking, and the discovery of seams of superior coal in other parts of the basin, but also to the establishment of iron works and other manufactures, affording a local market for the coal. To this local market, down to 1859, it was in a great measure confined. In that year the charge for railway carriage of coals for long distances was reduced to one penny per ton (a fifth of a farthing per 100 lbs.) per German mile (about 4½ miles English), and the above figures show the subsequent increase of production. The railways and coal mines render each other service; the carriage of Westphalian coal is one of the most important branches of traffic on several of the chief Prussian lines, and the low rates at which it is carried enable it to find a distant market. The projected reduction of the rate for the transport of iron ore to the same tariff as that for coal, when carried into effect, will greatly augment the market for coal, as well as for manufactures of iron. Until the last few years the Ruhr basin excelled only in the manufacture of steel, but its iron manufactures are now of the highest quality. The chief difficulty with which the iron manufacturer has hitherto had to contend is the great cost of the carriage of the ore from the mines in Siegerland, the Rhine Provinces, Nassau, Hessen, Darmstadt, and Hanover. The iron mines are situated for the most part in mountainous districts, some not yet approached by railways, others without even roads to connect them with railways or rivers, the ore being often drawn by oxen or cows, when dry weather permits across fields or through woods to the nearest roads. Nevertheless, under all these disadvantages the iron manufactures of the Ruhr Basin have trebled in amount in the last 10 years. The improvement in quality is even greater, and the iron works of Duisburg may soon become as celebrated as the steel works of Essen.

Of the great Essen steel works most people have heard a good deal, and, of course, Mr. Leslie did not fail to take an opportunity whilst in the district of visiting them. His account of them contains a vast amount of information in a very small space. He reminds that Mr. Krupp began business at the age of 15, with two workmen and a small local market, and 20 years ago his establishment was still a small one. Now the buildings form in themselves a considerable town; the steel works alone give employment to upwards of 8000 men, who, with the families of those who are married, make a population of 25,000 maintained by this single establishment, exclusive of 2300 men in Mr. Krupp's employment at coal mines near Essen, at blast-furnaces on the Rhine, and at iron pits on the Rhine and at Nassau. The steel works included in 1867, 412 smelting-furnaces, 195 steam-engines, some of them at 1000 horse-power, 49 steam-hammers, 110 smiths' forges, 675 different machines; and all these numbers now are exceeded. The works are connected by special lines of railway above 15 miles in length, and the gas works of the establishment are equal to those of the city of Cologne. All the heads of the technical departments are pupils of the various polytechnic schools in Germany. The commercial staff includes a jurist, by whom all contracts are settled and legal questions determined. The foremen have all risen from the ranks.

Unfortunately, Mr. Krupp is not only a representative of the prodigious progress of industry in the Ruhr basin, but an example of the influence of political causes on its productions—a class of causes which most English economists seem deliberately to ignore, although they are among the chief conditions of determining the occupations and wealth of mankind. In 1866 the steel produced at Mr. Krupp's works was valued at nearly a million; but the greater part was probably material of war. Mr. Krupp has but few Prussian patents, and, too, only for considerable inventions; and the discrimination with which patents are granted in Prussia is alone sufficient to enable Prussia manufacturers to distance before long those of other countries in which to make even the slightest change is now attended with danger, in which it is perilous in the highest degree either to patent a great invention or to work it without one. Prussia is fast acquiring all the peculiar advantages to which England owed her earlier superiority—coal, iron, mechanical invention, and good means of communication, and adding to them conditions of success, of which England is deprived by her own weakness. Westphalia, the Ruhr basin in particular, observes Mr. Leslie, in conclusion, may be regarded as the type of Germany, of its unhappy early history, its recent good government and rapid progress, the vast future before it, and the formidable competition before England. "If you would see what Germany is doing," said M. de Laveleye, "go to the Ruhr basin;" but the chief lesson to be learnt regards what Germany is about to do. What will the Ruhr basin be in another 20 years?

IMPROVED ORE CONCENTRATOR.—It is generally admitted that if fine ore could be separated with as little loss of metal as coarse, fine crushing would be the rule. Mr. S. T. PEARCE, of New York, has devised a concentrator which is believed will permit of nearly perfect concentration. Instead of the employment of currents of either air or water, which necessarily carry off some valuable matter, the crushed ore is thrown out of a revolving distributor, and by the operation of centrifugal force alone is carried into concentric annular receivers, the heavier particles falling farther from, and the lighter nearer to, the centre. There are revolving brushes and scrapers in each division, and these are put in motion by a revolving rim, operated by a pinion. The various grades of ore can be separated to a great nicety, and the machine will perfectly concentrate ores which are so fine as to float on water. With Mr. Pearce's machine the usual objection to dry dressing does not arise, as the apparatus can be placed in a closed chamber, which need never be entered by workmen while the machine is in operation. The pipe through which the ore is admitted is fitted with an air-tight stuffing-box, which prevents all currents of air from entering, and the air within the chamber will gradually acquire a rotary motion with the running of the machine, which will not disturb the separation even of the finest dust, each particle of which will fall in its proper place.

FOULING OF IRON SHIPS.—Southampton, March 5, 1869: The Turkish and Egyptian Admiralty have been making experiments during the last year with several new expensive compositions, manufactured in France, Scotland, and Liverpool, against the anti-fouling composition of Messrs. Peacock and Buchanan; and having satisfied themselves of the superiority of the latter, at half the cost, Messrs. Peacock and Buchanan have lately received instructions to send a year's supply to the arsenals of Constantinople and Alexandria. The Peninsular and Oriental Company have also just ordered a large supply for all their depots in India, China, and Australia.

A NUT, FOUND IN BOTALLACK MINE, FOR GEOLOGISTS TO CRACK.—A short time ago, Pascoe Ellis, a young man working in the 180 fathom level east in Botallack, about half a mile from the sea, after blasting a hole in a hard granite rock (not primary, but what is called the secondary granite), about eight inches off from a lode composed of quartz and iron, and 5 feet thick, discovered a substance, jutting up 5 in. above the surface of the rock he had blasted. He took his hammer to break it off; but, on finding it flexible, with his chisel he cut it out. It proved to be a vegetable substance, about 4 in. in length and 1½ in. in diameter. It had the smell and appearance of the common ore-weed, found on our shores. What can geologists make of this fact?

HOLLOWAY'S OINTMENT AND PILLS.—HOPE FOR ALL.—Whatever their ailments, none need despair of being cured till they have tried these inestimable remedies. Whether the disease be internal or external, spontaneous the result of violence, if a cure be possible, Holloway's medicaments will effect it. The severity or duration of the malady is no bar to the successful influence exerted by these fine medicaments, which cleanse, purify, and invigorate every solid and fluid in the body, and completely renovate the digestion. They render every organ of secretion healthy. These admirable and delicate remedies act immediately on the absorbent system, lungs, heart, and circulation, whereby they invariably give energy, tone, and vigour to all the natural functions of life.



## WATSON BROTHERS' MINING CIRCULAR

WATSON BROTHERS,  
MINING AGENTS, STOCK AND SHARE DEALERS, &c.  
1, ST. MICHAEL'S ALLEY, CORNHILL, LONDON.

MESSRS. WATSON BROTHERS return their most sincere thanks for the great patronage bestowed and confidence reposed in their firm for 25 years, and to assure their friends and clients it will be their earnest endeavour to merit a continuance of both.

Messrs. WATSON BROTHERS have made arrangements for continuing their weekly Circular, which has had a large circulation for many years, to the columns of the *Mining Journal*, their special reports and remarks upon mines and mining, and state of the share market, will in future appear in this column.

In the year 1843, when Cornish mining was almost unknown to the general public, attention was first called to its advantages, when properly conducted, in the "Compendium of British Mining," commenced in 1837, and published in 1843, by Mr. J. F. WATSON, F.G.S., author of "Gleanings among Mines and Miners," "Records of Ancient Mining," "Cornish Notes" (first series, 1862), "Cornish Notes" (second series, 1863), "The Progress of Mining," with statistics of the Mining Interest, annually for 21 years, &c., &c. In the Compendium, published in 1843, Mr. WATSON was the first to recommend the system of a "division of small risks in several mines, ensuring success in the aggregate," and Messrs. WATSON BROTHERS have always a selected list on hand. Perhaps at no former period in the annals of mining has there been more peculiar need of honest and experienced advice in regard to mines and share dealing than there is at present; and from the lengthened experience of Messrs. WATSON BROTHERS, they are emboldened to offer, thus publicly, their best services to all connected with mines or the market, as they have for so many years done privately, through the medium of their own Circular.

Messrs. WATSON BROTHERS transact business in the purchase and sale of mining shares, and other securities, payments of calls, receipt and transmission of dividends, obtaining information for clients, and affording advice, to the best of their knowledge and judgment, based on the experience of more than 30 years active connection with the Mining Market.

Messrs. WATSON BROTHERS also inform their clients and the public that they transact business in the public funds, railway, docks, insurance, and every other description of shares dealt in on the Stock Exchange.

Messrs. WATSON BROTHERS are also daily asked their opinion of particular mines, as well as to recommend mines to invest or speculate in, and they give their advice and recommend mines to the best of their judgment and ability, founded on the best practical advice they can obtain from the mining districts, but they will not be held responsible, nor subject to blame, if results do not always equal the expectations they may have held out in a property so fluctuating as mining.

Messrs. WATSON BROTHERS having agents and correspondents in all the mining districts, and an extensive connection among the largest holders of mining property, have the more confidence in tendering their advice on all matters relating to the state and prospects of mines and mining companies, and are able to supply shares in all the best mines at close market prices, free of all charge for commission.

**SATURDAY.**—Good demand for Grenville, at 47s. 6d. to 50s.; East Grenville, 44s. to 46s.; West Frances, 49s. to 51s.; New Lovell, 27s. to 31s.; Seton, 70s. to 75s.; Uny, 4s. to 4s. 6d.; Rosewall Hill and Ransom, 30s. to 35s.; Chiverton Moor, 5s. to 5s. 6d.; Frank Mills, 3s. to 4s.; Basset, 70s. to 75s.; Buller, 10s. to 12s.; Prince of Wales, 24s. to 26s.; Drake Walls, 20s. to 22s. 6d.; Chontales, 20s. to 25s.

**MONDAY.**—The market opened rather quiet, and without much change in prices. Chiverton Moor, 5s. to 5s. 6d.; Drake Walls, 20s. to 22s. 6d.; East Grenville, 43s. to 45s.; Great North Laxey, 30s. to 32s. 6d.; Great Vort, 10s. to 12s. 6d.; Prince of Wales, 24s. to 26s.; Providence Mines, 38s. to 40s.; Rosewall Hill, 30s. to 35s.; West Chiverton, 51s. to 53s.; West Frances, 49s. to 51s.; West Seton, 200s. to 210s.; Wheat Crebhor, 10s. to 12s. 6d.; Wheel Grenville, 47s. 6d. to 50s.; Wheat Uny, 3s. to 4s.

**TUESDAY.**—The market is very quiet to-day, and prices are about the same as yesterday. West Frances, 49s. to 51s.; West Chiverton, 51s. to 53s.; Crebhor, 10s. to 12s. 6d.; Grenville, 45s. to 50s.; East Grenville, 44s. to 46s.; Great North Laxey, 30s. to 32s. 6d.; Prince of Wales, 23s. to 25s.; Taquairil, 11s. 6d. to 13s.; General Brazilian, 13s. to 15s.; Chontales, 22s. 6d. to 25s.; Don Pedro, 4s. to 4s. 6d.

**WEDNESDAY.**—The market continues very quiet, with little alteration in prices of yesterday. Chiverton Moor, 5s. to 5s. 6d.; Prince of Wales, 23s. to 25s.; West Frances, 50s. to 52s. 6d.; Seton, 200s. to 210s.; Uny, 3s. 6d. to 4s.; East Grenville, 43s. to 45s.; Taquairil, 12s. 6d. to 14s.; General Brazilian, 13s. 6d. to 15s.

**THURSDAY.**—Market very dull. Dealers engaged with settlement. Seton, 200s. to 210s.; Wheat Seton, 70s. to 75s.; West Chiverton, 51s. 6d. to 53s.; Stray Park, 7s. to 8s.; Providence, 38s. to 40s.; New Lovell, 27s. to 31s.; Prince of Wales, 23s. to 25s.; Grenville, 45s. to 47s. 6d.; Chontales, 24s. to 26s.; Don Pedro, 4s. to 4s. 6d.; Taquairil, 11s. 6d. to 13s. 6d.; General Brazilian, 13s. to 15s.

**FRIDAY.**—Settling-day, but market more active. East Grenville in demand at 44s. to 46s.; Chontales, 25s. to 26s.; Mineral Bottom, 3s. to 4s.; Great Laxey, 19s. to 20s.; Cook's Kitchen, 1s. to 1s. 6d.; West Seton, 200s. to 210s.; Don Pedro, 4s. to 4s. 6d.; Price of Wales, 20s. to 22s. 6d.; West Chiverton, 51s. 6d. to 53s.; West Frances, 49s. to 51s.; Wheel Grenville, 45s. to 50s.

## Mining Correspondence.

## BRITISH MINES.

**BEDFORD UNITED.**—J. Phillips, March 10: The engine-shaft is now 10 fms. under the 90, and good progress is being made in sinking. In the 90 east the lode is about 2½ ft. wide, and for the last 2 fathoms taken down has produced full 4 tons of ore per fathom. Drilling has been resumed at the 90 west; this end is hard at present, being in the same hard channel of ground passed through in the shaft, but I expect an improvement shortly, as the lode in the shaft has been productive throughout the sinking. In the 75 east the lode is 3 ft. wide, and has for the last 8 fathoms driving produced from 5 to 6 tons of ore per fm., and in the end is of the same value—a very strong, promising lode. The lode in the winze sinking in the bottom of this level is 2 ft. wide, producing good work. The stope above the mine will produce from 4 to 5 tons of ore per fathom.

**BRONFLOYD.**—T. Kemp, March 11: There is no change in the value of the different bargains throughout the mine since last report. We shall drive the 73 fm. level end, west of the new shaft, about 6 ft. further west, and then cross-cut from wall to wall of this immense lode. We shall sample 60 tons of lead ore next week.

**BRYNPOSTIG.**—J. Killo, March 10: The water is decreasing daily, so much so that we can now get on with the sinking, and there is a nice lode in the bottom of the engine-shaft, improving as we go down.

**CAPE BATHAGLOU.**—J. Killo, March 11: In driving the deep adit level we continue to meet with stones of ore. We are putting a small lift of pumps at the engine-shaft to facilitate the sinkings. The ground will be cut out for the wheel-case by the end of this week.

**CAPE CORNWALL.**—R. Pryor, T. Gundry, March 8: We set on Saturday last the 100 fm. level cross-cut, to drive north of the engine-shaft, by four men, at 12l. per fathom; the ground is a little harder than usual, being mixed with spar, which is impregnated with yellow copper ore. The 70 fm. level cross-cut, to drive south of the shaft, by four men, at 12l. per fathom; the ground at this point has become more favourable for progress, and is intermixed with mundle and spots of copper ore. We have now properly ventilated this end, which will enable us to do a great deal more work in less time.

**CARN CAMBORNE.**—J. Truscott, March 10: At the 85 we are cross-cutting north and south, where the ground is moderately favourable. The lode in the 70 west is worth 6l. per fm. We have stopped driving on the branches mentioned in last report at the 60, and resumed the cross-cut north at this level, to prove whether a lode seen in the adit is further north. The stope continues of the same value as when last reported.

**CENTRAL MINERA.**—Wm. Davies, March 11: The cross-cut has been extended north of the 50 yard level 7 yards, at present yielding no lead to value, but promising for an early improvement. The level driving north makes good progress, and yielding a little lead. The pitch is yielding lead as usual, worth about 6 cwt. per fathom.

**CUDDRA.**—F. Puckey, March 10: The lode in the 142 fm. level end, driving west of the shaft, is still 10 ft. wide, and worth 160l. per fm.; in cutting out the lode behind the end and east of cross-course we have reached the tin part of the lode, and have cut into it 3 ft., with no appearance of reaching the north wall; as far as seen the lode is of great promise, and producing good work for tin; we cannot yet report on its size or value. The other parts of the mine are without alteration since last report.

**OWM DARRIN.**—R. Clocker, March 11: The men in sinking the engine-shaft are getting down as fast as we expected, and there is nothing new to report as to the character of the lode. In driving the adit 130 fathoms west of the engine-shaft we have a very promising lode, and it is producing some very good stones of lead ore. Our machinery is in good repair, and we shall be ready to sample our first parcel of silver-lead ore in ten days from this date.

**OWM ERFIN.**—March 9: The lode in the 20, east of the boundary, is 3 ft. wide, composed of clay-slate and small branches of spar. We have three stopes working in back of deep adit, producing on an average 1¼ ton of lead ore per fathom. The lode in rise in back of same level is 6 ft. wide, worth 1½ ton per fm. There is another stope working in back of this level, producing 16 cwt. of ore per fm. The lode in Taylor's drift, east of the boundary, is 6 in. wide, composed of spar, clay-slate, and spots of lead. The lode in Taylor's drift, west of the rise, is 1 ft. wide, poor. The stope in bottom of Taylor's drift is worth about ½ ton of lead ore per fathom. The lode in the stope in back of ditto is 3¼ ft. wide, worth 18 cwt. of lead per fathom. The lode in Williams's level, east of boundary, is 18 in. wide, composed of kilaas, quartz, and spots of mundle. The stope in bottom of Williams's level, is worth 16 cwt. of lead ore per fathom. The stope in back of this level has slightly failed as we get nearer the surface.

**DEEP LEVEE.**—March 10: The lode in the 202 yard level, east of the cross-cut south, at the 202 yard level, 20 yds. west of the Pant-y-go vein, is full 3 feet wide, the north part, about 12 in. in width, is composed of spar, blende, and lead ore. The middle part is a cavity for about 14 in. in width, containing a little clay and sand, and the south part for 10 in. in width is principally composed of spar with spots of lead ore, altogether it is a fine great lode. It will take us about a week to square in the cross-cut to the south part of the vein; as soon as this is accomplished we shall commence to drive on the course of the vein. We are also driving out a cross-cut south, at the 202 yard level, about 15 yards east of Pant-y-go shaft, as we are almost certain that the level which the old company drove is to the north of Pant-y-go vein. We hope to cut the lode in this cross-cut in a week. In the 204 yard level, west of Eytton's shaft, the lode is 2 feet wide, composed of spar and spots of lead ore, a promising lode. There is no alteration in any of the other points. We sampled 20 tons of lead ore yesterday.

**EAST CARADON.**—John Truscott, March 10: Gaunter Lode: The 115 east is poor. The 100 east is poor—Child's Lode: The 90 east is worth 16l. per fm. The 90 west is worth 16l. per fm. The 80 west is poor. The 70 west is worth 20l. per fm. The 70 east is worth 5l. per fm.—South Part of Child's: The 70 east is worth 5l. per fm. The 70 west produces saving work.

**EAST CARN BREA.**—I. Richards, March 5: There has been no lode taken down in Thomas's engine-shaft since my last report.—Thomas's Engine-Shaft, No. 3 Lode: In the 90 west the lode is 1 ft. wide, composed of capel, quartz, mundle, and a little copper ore. The lode in Awer's rise, in the back of the 90

west, is 1 ft. wide, and worth ½ ton of copper ore per fathom. The lode in the 80 west, and west of Davies' cross-cut, is 15 in. wide, consisting of quartz, capel, fluor, mundle, and saving work of copper ore. William's rise, in the back of the 50 west, is 1 ft. wide, and worth ½ ton of copper ore per fathom. The lode in the 40 west is 15 in. wide, and worth ½ ton of copper ore per fathom. The lode in the 30 west, on the south part of the lode, is 1 ft. wide, unproductive; this drive is now suspended. The lode in William's rise, in the back of the 30 west, is become small and unproductive; this rise is also suspended.

**EAST CHIVERTON.**—J. Grose, R. Southey, March 6: We have great pleasure in informing you that in Bartlett's flat-rod shaft we have reached the 40, and this day set the plat to cut by nine men, at 8l. per fathom, and hope to reach the lode in about a month. The winze will be about 15 fathoms deeper than where we laid the rich shoot of silver-lead ore in the 25, and we expect the 40 will open up a productive level. The 25 fm. level cross-cut north continues to traverse a beautiful stratum of soft congealed elvan, and we hope are long to meet with a valuable lode in this level; driving by four men, at 25s. per fathom. Altogether the prospects of the company continue very encouraging.

**EAST PROVIDENCE.**—J. Nancarrow, W. White, March 6: At our survey to-day the following work was set:—Boorman's shaft to sink below the 122, by six men and three boys, at 20l. per fm. The 122 to drive south, east of the capel, by six men, at 12l. per fm. A rise in bar of the 106, by four men, at 6l. per fm. lode large and tinny. The winze below the 94, by four men, at 6l. per fm.; this is expected to be communicated with the rise above the 106 about the end of the month, and will greatly improve the ventilation in the bottom of the mine. The 70 to drive east, by four men, at 6l. 10s. per fm.; lode looking well, worth 6l. per fm. The 50 to drive east, by two men, at 7l. per fm.; and opening out tribute ground. The 50 to drive south of Wilson's shaft, on the cross-course, by two men, at 8l. per fathom, to cut the western part of the rich branch recently worked between Boorman's and Wilson's. We have also set seven, pitches at 7s. in the 122.

**EAST ROSEWARNE.**—C. Glasdon, in King's shaft, sinking below the 115, the lode is 12 inches wide, worth 7l. per fathom. In the 115, west of shaft, the lode is 12 inches wide, worth 7l. per fathom. Two stopes in the back of this level are worth 7l. per fathom each. In the 115, east of shaft, the lode in 12 inches wide, worth 4l. per fathom. One stope in the back of this level is worth 6l. per fathom. In the 105, west of shaft, the lode is 12 inches wide, producing good stones of copper ore. One stope in the back of this level is worth 7l. per fathom. In the 105, east of shaft, the lode is 15 inches wide, worth 6l. per fathom. One stope in the back is worth 7l. per fathom. In the 95, east of shaft, the lode is 12 inches wide, worth 3l. per fathom.

**EAST WHEEL GRENVILLE.**—G. R. Odgers, Wm. Bennetts, March 6: The lode in the 75 east is 20 in. wide, and worth 2 tons of copper ore per fathom, and partaking of much the same appearance that the lode does at the 55. From the tinctor that is oozing from the north side of the 65 we are strongly of opinion that the main part of the lode is still standing north of the level, and we propose on Monday to place the men there again, as the underlie of the winze leads to the same supposition. We are glad to tell you that all the other places are looking precisely the same as we stated in our last report. The 120 east is 18 in. wide, very kindly in appearance, and worth 1 ton of copper ore per fathom. The lode in the 110 east is 15 in. wide, of quartz and stones of ore. The stope above this level is worth 15l. per fm. The lode in the rise above the 95 east is worth 1 ton of ore per fathom, and laying open ground that will be wrought at 11s. in 1l. The lode in the 85 east is small; but judging from the 75, about 3 fms. before this end, we are anticipating an improved lode, as the lode is undergoing precisely the same change as it did at that level. The lode in the 75 east is 20 in. wide, and worth 2 tons of copper ore per fm., with every appearance of a still furthering in the lode. The lode in the 65 to cut in north, as from the underlie of the lode and the bearing of it we believe that it will be found in that direction. On account of the ventilation in the 55 we are unable to continue the winze, and at the same time work the other places, where the lode will produce from 2½ to 3 tons of ore per fathom. The lode in the 55 east is 3 feet wide, a masterly looking lode, and worth 2½ to 3 tons of ore per fathom. The pitch above this level is looking very well, and from which the men are raising good piles of copper ore. The rise above this level will produce from 2½ to 3 tons of ore per fathom. The ground at the 45 cross-cut is a little stiff, but the men are forcing it with all dispatch.

**EAST WHEEL REETH.**—Thomas Uren, March 10: Since my last report there is a great improvement in the lode, which continues its size; some part of it is very rich. We have set it to a pair of men to stope away the back on tribute; they are breaking down rocks of tinstuff, and getting on well.

**EAST WHEEL RUSSELL.**—W. Richards, March 11: The north lode, driving east of the Tunnel, is 20 in. wide, containing carbonate of iron, quartz, peach, a little mundle, and copper ore. The middle lode, driving east of the Tunnel, is 2½ ft. wide, and much the same in character as for some little time past, producing some occasional tin, but not enough to value. In costaining the eastern part of the set we are still crossing the elvan-course, which is very hard in places, and consequently, impedes the progress.

**FRANK MILLS.**—J. Cornish, F. Cornish, N. Addams, March 10: Not having met with any more lode in the 145 north end we have commenced a cross-cut west, to prove whether it is in that direction; a little water is now oozing from the ground in the end. The east lode in the 145 south is still looking highly promising for an improvement, and yielding saving work; the ground, also, has become easier for progress. The lode in the back of this level north on same level, is yielding ½ ton of lead ore per fathom. The west lode in the 84 north is still looking well, and producing fully 1 ton of lead ore per fathom. We have just commenced a rise behind the present end, to ventilate same from the level over (the 72), and open out stoping ground. The 72 north, on Hancock's lode, is also looking pretty well, and producing 18 cwt. of lead ore per fathom. The middle stope, in back of this level, on same lode, has been put through to the 60 fm. level, and the other two stopes are yielding respectively ¾ ton of lead ore per fathom. The 60 south, on Hancock's lode, continues to produce occasional small spots of ore, and has a very kindly appearance. We now have three stopes working in the back of this level, yielding respectively ¾ ton, ½ ton, and ¼ ton of lead ore per fathom. The tribute department is not producing quite so much ore as formerly reported. We are making fair progress in our dressing for the next sampling.

**GAWTON COPPER.**—G. Rowe, G. Rowe, Jun., March 6: The 82 cross-cut, driving north from King's engine-shaft towards the lode, is extended 9 fms. 1 ft. 9 in.; the ground is rather stiff, being in the south capels of the lode. The lode in the 70, east of said shaft, is showing a very kindly appearance, and improving in value being worth 2 tons of copper ore per fm. The lode in the stop: going down below the 70 is worth from 5 to 10 tons of ore per fm. The lode in the 60 east is looking better, producing good stones of ore, and showing indications of improvement. This is our monthly setting-day, particulars of which we will forward early in the coming week.

**GREAT NORTH DOWNS.**—Wm. Rich, Wm. Ennor, March 10: The water is forced 5 fms. below the 74. We hope to have the 84 drained in a few days. We have resumed operations in several of the pitches and bargains. The south lode in the 64, west of cross-cut, is improving, now worth 85 per ton. The lode in the 64, east of cross-cut, is showing a very kindly appearance, and improving in value being worth 2 tons of copper ore per fm. We have started a cross-cut at the 74, west of Sleggan's, to intersect this south lode deeper, and shall urge on the 75 cross-cut, south of Butler's, to intersect it as soon as the water is drained. The stopes in the 64, east of Butler's, are worth 8l., 8l., 9l., and 7l. per fm. respectively. Two stopes in the 74, west of Sleggan's, are worth 18l. per fm. The tin lode in the 48, west of King's, is worth 8l. per fm. A stope in the back of this level is worth 12l. per fm. We have 274 tons of tinstone for sale this afternoon.

**GREAT NORTH LAXEY.**—J. Horsley, March 9: The lode in the 10 fm. level end north continues to improve both in size and character, being fully 4 ft. wide, and is now yielding some good stones of lead and jack, and looks promising. The lode in the 96 end north continues large and strong, quite 4 ft. wide, worth about ½ ton of lead per fm. The 84 end, driving north, and now a little past the old shaft, is still looking promising; the lode is 3 ft. wide, and worth close upon 1 ton of lead per fm. The lode in the 27 end south continues 5 feet wide, and now taken its regular course; the end is worth about ½ ton of lead per fm. The stopes are looking much the same as in our last report. The lode in the 40 fm. level end north continues to improve, and is now yielding some good stones of lead and jack, and looks promising. The lode in the 96 end north continues large and strong, quite 4 ft. wide, worth about ½ ton of lead per fm. The 84 end, driving north, and now a little past the old shaft, is still looking promising; the lode is 3 ft. wide, and worth close upon 1 ton of lead per fm. The lode in the 27 end south continues 5 feet wide, and now taken its regular course; the end is worth about ½ ton of lead per fm. The stopes are looking much the same as in our last report.

**GREAT NORTH MANGERS.**—J. Harris, March 9: The lode in the adit or bottom level is 5 ft. wide, with fine specimens of manganese of the best quality, and good indications of still increasing in value. In No. 1 level the ground is more favourable. We are opening new ground driving west from old dump. In No. 1 level the lode is 2 ft. 6 in. wide, and getting larger, full of manganese of the finest quality; from the indications I fully expect this will be a very productive lode.

**GREAT RETALLACK.**—G. R. Odgers, March 6: During this week we have fixed a plunger-lift at the No. 1 shaft, from the 120 to the adit levels, and we have also changed the 20 pole at the No. 2 shaft, which has left in the water, so that was enabled to-day to measure and set as I usually do; this water will be in for against Monday or Tuesday morning when I propose measuring and setting, and then send you my report thereon. All the places are looking the same as Capt. Harris advised you on Tuesday.

**G. R. Odgers, J. Harris, March 10: Setting Report: No. 1 Lode:** The engine-shaft to sink below the 30, at the same price as last, the men having taken the lift: the lode is from 18 in. to 2 ft. wide, with good stones. In the 30 south, at 4l. per fathom, the lode is from 18 in. to 18 in. wide, and worth 4 cwt. of lead to the fathom. The 30 north, at 4l. per fathom; lode 18 inches wide, with good stones of lead. The stope above this level, at 30s. per fm.; lode worth 2 cwt. to the fathom. The 20 north, at 4l. 4s. per fathom; the lode is 15 in. wide, with occasional stones of lead.—No. 2 Shaft: The lode in the shaft sinking below the 40 is 18 in. wide, of friable quartz and good lumps of lead—a very promising lode indeed. The 40 south, at 2l. 5s. per fathom; lode 2 ft. wide, with occasional stones of lead. The character of the lode here and the stratum leads anyone to expect a decided improvement at any day. The 40 fm. level lode is 24 l. per fathom; lode 15 in. wide, principally of friable quartz, the white iron apparently leaving the lode. The stope above this level, to four men, at 40s. per fathom.

**GREAT SOUTH CHIVERTON.**—John Nancarrow, March 9: The following work was set to-day:—The 20 to drive east by six men, at 3l. per fathom; a fine-looking lode, in which are spots of lead. To rise above the 30, under the shaft, by four men, at 10l. per fathom. To rise above the 40 by four men, at 4l. 10s. per fm.; this rise will come up under the rich blende seen in the 30; the lode low well, and is likely to be productive. The 40 to drive east by three men and three boys, at 3l. per fathom; lode 3 ft. wide, very much improved in appearance. The 50 to drive east by two men, at 5l. per fathom; lode 2½ ft. wide. The 50 to drive west by four men and four boys, at 10l. per fathom. The greater part of the water in the mine is in this end, which, together with its being hard, makes it spare for driving, but we expect to get on a little faster, and soon to get into lead.

**GREAT SOUTH TOLGUS.**—J. Daw, March 11: We have commenced to drive the 140 west, on the tin lode, and the tributaries have also commenced working their pitches in the back of this level. The water is now 3 ft. below the 140; it would have been much lower, but on Sunday last one of the valves of the engine broke, which took about eight hours to repair; since we have forked the water let in by the breakage, and are forking well.

**GREAT WHEEL BADDERN.**—Richard Pryor, H. Tregoning, March 6: Hill Brothers Engine-Shaft: We have nothing new to communicate from either the 75 cross-cut driving towards the tin lode, or the 75 west, on the lead lode, during the past week. These points are looking much the same as for some time past, but we have an increase of water coming from the tributaries.

**GWYDYR PARK.**—Wm. Smyth, March 9: There is no particular change in the shaft at Gwyn Liffon since last report. In the Vuchias deep adit end we have intersected a cross branch about 6 in. wide, principally composed of mundle, with a little blende and lead ore, but not to value.

**IMPERIAL.**—E. Pearce, March 9: The engine-shaft is down about 6 fathoms

below the 20, and the ground continues favourable for sinking. I intend to get a lift of pumps on the mine, and everything ready to go, as soon as the shaft is down the required depth. In the adit cross-cut south we have cut another branch crossing the end, but of no value. The ground is without change. There is nothing new in the tribute pitch since my last report, worth about 6 cwt. of lead ore per fathom.

**LLYWERNOG.**—J. Davis, March 10: I have set the winze to be sunk through from the 60 to the 62, in one bargain, to six men, for 94l. 10s.; they are progressing most satisfactorily, and the lode produces fully 2 tons of lead ore per fathom. There is a part of men clearing the stuff which had accumulated in the 62, and I expect we shall get it all to surface and be able to resume the drive in about a week from this date.

**MAUDLIN.**—J. Tresay, March 6: The lode in the rise has become very much disordered, and we have had to shoot away after some branches in that direction, which were looking fair; the lode now in this direction will produce 1½ ton of copper ore per fathom, and we purpose carrying the rise so as to follow it. The south branches are producing good stones of copper ore, and looking promising to become more productive. We sample the copper ore on Monday.

**MINERA UNION.**—W. T. Harris, March 11: Low's Shaft: The lode in the 60 yard level north is 2 ft. wide, yielding stones of lead and blende. The ground in the cross-cut going west is favourable for progress, and contains a little lead.—Brauner's Shaft: The ground in the cross-cut in the 80 yard level consists of black limestone and shale. The pitch in back of this level is worth 15 cwt. lead per fathom, and very promising.—Boundary Shaft: The ground in the 60 yard level north consists of chert, hard for progress.—Flue Shaft: The pitch in bottom of the 40 yard level north is worth 15 cwt. lead per fathom.

**NEW CROW HILL.**—A. Kent, T. Trelease, March 9: At the engine-shaft we are sinking with good progress, and the ground now easier than it has been for some time past.—Wilson's Lode: In the 75 cross-cut we are pushing on south, through ground of a mixed nature—kilaas and branches of spar, &c., similar to the ground passed through in the 60 cross-cut before cutting the south part of the lode in that level. At this point we are making pretty good progress.

**NEW GREAT CONSOLS.**—R. Pryor, T. Bennetts, R. Trathen, March 9: We are still cutting through the horse of kilaas in the 85 fm. level, but there is more water coming out of the end, indicating that we are near the main part of the lode; this is an important point, and will be pushed on with all possible speed. Four men are engaged in clearing up the bottoms below the 74, in order to sink a winze, so as to lay open the ground west of Ellis's engine-shaft, which will also give good ventilation to the bottom levels. The stopes, and all other tribute work bargains throughout the mine, are looking quite as well as when last reported on. Saturday next being our pay and setting, a full report will be sent you. We are getting on well for another sampling of copper ore and mundle.

**NEW TRELEIGH.**—S. Michell, March 10: The lode in the 78, west of the new shaft, is improved in the last few days, worth 2½ tons of ore per fm.; 6 ft. more will bring us under the winze in the 70, where I do expect further improvement. Our progress in the shaft has been slow for the last fortnight, owing to the water being so quick, but I think we are getting out of that difficulty now, and shall be able to make better speed in sinking. I do like the character of the lode, and it is my opinion when we cut down a couple of fathoms deeper we shall find a change for the better. The lode in the 78 east is looking very well, worth to-day fully 4½ tons of ore per fathom. The stopes in the back of this level will average 3½ tons of ore per fathom. Our prospects were never so good as they are at present. We sampled 35 tons of ore this week, and have about 10 tons already broken towards another sampling.—P.S.: The 35 tons of ore sampled is the produce of 8½ fathoms of ground. This is from the east of the shaft. The ore from the western shaft will be sampled next time.

**NEW WHEEL PROSPER.**—P. Floyd, in driving the 100 fathom level, west of Paul's shaft, we have a good looking lode, producing fine stones of tin; and I will know that when the 20 fm. level is dry, which will be in a few days, we shall be in a position to sample large quantities of tin.

**NEW WHEEL TOWAN.**—R. Pryor, March 9: There is no particular change to report on this week. Friday next being our pay and setting, a full report shall be forwarded you.

**NORTH DOWNS.**—Francis Pryor, James Williams, March 9: In the 85 we consider our indications more favourable for driving, but still have to contend with a large quantity of water. In the sun-winze the water is making good progress, and we are again forming its usual course; this is nothing more than we have seen in our best courses of ore. In the 40 rise there is a shade of improvement, producing good stones of ore. The 60 east is producing a little ore, but not to value. Our stopes are as last reported.

**NORTH POOL.**—J. Vivian and Sons, March 11: We are making fair progress in sinking Ballarat shaft under the 40; the lode is increasing in size, being now 3½ ft. wide, and is impregnated throughout with blende, mundle, and yellow copper ore, so that we hope to get deeper it will become more productive of copper in paying quantities. In the 30 east of the middle lode, the lode is 1 ft. wide, and producing ½ ton of copper ore per fathom.

**NORTH RETALLACK.**—G. R. Odgers, March 6: The water to-day is only 25 ft. below the 10, and, therefore, not deep enough to resume the sinking of the winze. Probably the water being in the No. 1 shaft for a day or two, caused by the fixing of the pole, has prevented the water going down; we shall watch, and as soon as operations can be resumed they shall be.

**G. R. Odgers, J. Harris, March 10:** The water has gone back sufficiently, so that we have to-day set the winze below the 10 fm. level, at 40s. per fm., and we hope that we may not meet with any further hindrance.

**NORTH TRESKERRY.**—R. Pryor, T. Jenkin, March 11: The lode in the 110, east of Tresler's shaft, is producing 2½ tons of copper ore per fathom; and in the winze sinking below the level it is worth 1½ ton of ore per fathom. In the stopes in the back of the level the lode is worth 3 tons of ore per fathom. No change to notice in any other part of the mine, and we hope in the course of a day or two to be able to resume the driving of the



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as at the Van Mine. A powerful water-wheel and crusher are about being erected, with the necessary apparatus for dressing the ore, when they anticipate good monthly sales. This mine has been reported on in the highest terms by Capt. Williams, of the Van Mine, as well as Capt. Gifford, a mining engineer of no mean authority, who for many years has been engaged by one of the first mining firms in the world.

**BRYNSTWTH LEAD MINE.**—There is considerable improvement in the rise to Eille's workings, now producing good ore. The new lode is producing fine stones of lead. The prospects of a lasting paying mine are very satisfactory.

**BRYNPOSTIG MINE (Montgomeryshire).**—The water is decreasing rapidly. There is an improving lode in the bottom of the engine-shaft. In the report of the proceedings, which appeared in last week's Journal, the Chairman was reported to have stated that the monthly returns of ore would increase from 40 to 150 tons as soon as another level had been opened up; whereas it should have been "as soon as other levels were opened."

**THE MID-WALES LEAD.**—The lode in the 12 ft. level, driving west, remains of the same highly satisfactory character, and the sinking of the engine-shaft is progressing satisfactorily. The new little stamps are working well, but the stuff is so small it will take some days to get it all through, and the sampling cannot be completed until this is done.

**FRONTINO AND BOLIVIA.**—It is announced that Mr. Geo. Noakes, F.G.S., has, owing to ill-health, resigned the chairmanship of this company, and Mr. Butler has been elected to a seat at the board. It is gratifying to observe the improvement which has taken place in this company's prospects, and more especially with regard to the steady increase in the produce of the gold, the average yield from the mines being 8 dwts. to the ton. The remittance amounted to 545½ ozs., which, deducting every expense, left a net profit of 254½ on the month's working.

**GREAT WESTERN MINES.**—The proceedings of the first general meeting are reported in another column. It will be seen that satisfactory progress is being made with the sinking of the new engine-shaft, and that in all probability the newly-purchased engine will be at work by the time the next general meeting will be held. According to all practical authorities who have inspected the mines, there appears ground for hoping that, in a comparatively short period after the engine has commenced working, profitable results will be realised, and the property once more brought into a dividend-paying state.

**THE VAN MINE (Montgomeryshire).**—It was stated in last week's Journal that if the lode in the 30 ft. level proved as rich as in the 15 ft. level this mine would undoubtedly take rank as one of the richest in the kingdom. Since then the lode has been cut into, and, so far as proved, is rich for lead. The lode is rapidly draining itself; the cross-cut has been resumed, and there seems every prospect of the lode proving more valuable than anything yet seen in the mine. The sale of ore for the month amounted to 150 tons, which realised 2035½. As compared with the last sale the ore fetched a higher price, showing an improved produce. The additional machinery is being delivered on the mine.

**UTILISING FUEL.**—Mr. F. H. Danchell, of Horwith, near Bolton, has patented some improvements in the mode of utilising fuel, by which he introduces coal, coke, peat, or other combustible matter, into furnaces in a condition of powder or dust, instead of solid lumps or blocks, as is generally the practice. He introduces this carbon dust or powder by means of a blast, either of air or steam, or both combined, and produced by a fan, or blowing-engine, or by means of a steam-jet direct from a steam-boiler. The air and steam employed in connection with this carbon dust or powder is heated or superheated by one of the means generally employed for the purpose, and well understood.

**PETROLEUM AS DOMESTIC FUEL.**—Although the use of petroleum as steam fuel has not proved practicable, it seems to have given excellent results applied to domestic purposes. A vapour cooking-stove, invented by Mr. Thomé, has been exhibited to the American Society for the Advancement of Science and Art. The fuel used was petroleum refuse, and the danger of explosion is obviated by the use of wire-gauze, as in miners' safety-lamps. The oven attains a baking heat in from one to two minutes, and bread, apples, and potatoes were baked, as well as a stake cooked, in the presence of the meeting. Several who had tried the stove expressed a favourable opinion as to its operation.

**THE EXPORT COAL TRADE.**—The exports of coal from the United Kingdom were on an extensive scale in December, having been in that month 795,402 tons, as compared with 679,041 tons in December, 1867, and 659,034 tons in December, 1866. In these totals the exports to France figured for 202,993 tons, against 144,271 tons and 195,776 tons respectively. Our coal exports for the whole of the year 1868 were 10,837,513 tons, as compared with 10,415,778 tons in 1867, and 9,953,712 tons in 1866, so that the shipments appear to be advancing at the rate of nearly 500,000 tons per annum—a consideration certainly in connection with our future coal supply. Our coal shipments increased last year to Russia, Sweden, Denmark, Prussia, the Hanse Towns, Spain, Italy, and Brazil; but they decreased as regards Holland, France, the United States, and British India. The exports to France last year were 1,925,370 tons, as compared with 1,995,650 tons in 1867, and 1,931,236 tons in 1866. The value of the coal exported in December was 392,107½, against 363,375½, in December, 1867, and 350,954½, in December, 1866; and for the whole of 1868, 5,355,791½, as compared with 5,392,452½, in 1867, and 5,102,805½, in 1866.

**COAL MINES.**—In the House of Commons, on Thursday, Mr. Dimsdale (in the absence of Mr. Greene) asked the Secretary of State for the Home Department whether he would cause the reports of the Inspectors of Coal Mines for the past year to be laid upon the table of the House, in order that members might read them before the promised measures with reference to accidents in coal mines came under discussion. Mr. Bruce said these reports had been already sent in, and he hoped the whole of them might be published within the next month—a very much earlier period than usual. Recognising the importance of having the reports printed at an early date, the Government hoped they might be able by dint of pressure to lay them on the table soon.

**THE GALLEON TREASURE VENTURE,** to the incorporation of which under the Companies Acts, 1862 and 1867, with limited liability, reference has already been made, has given notice that applications for debentures therein will be received up to Wednesday. The debentures are 5000 in number, and of 5½. each. The debentures will carry 10 per cent. interest, and will be paid off at 10½. each, both principal sum and interest, out of the first available receipts of the company. In addition, every debenture will be entitled to one share of 5½. in the capital of the company as and by way of bonus. The object of the venture, it will be remembered, is to seek for the treasures supposed to have formed part of the cargoes of galleons sunk in the harbour of Vigo in 1702, and which consisted of gold, silver, precious stones, jalap, sarsaparilla, &c., and likewise to recover guns of the French fleet sunk at the same time. Arrangements have been made for intending investors to inspect, at the office of the company, the report of Colonel Gowen on the position of the galleons, a history by Mr. Roger Fenton of the period in question, the copy of the Royal Decree authorising the recovery of the treasure, the agreement with the concessionaire, and other documents connected with the matter.

**ENGINEERING LITERATURE.**—So much information of a nature calculated to enable the intelligent workman to secure the advantage of the scientific researches and experience of others is now published in connection with all kinds of industrial pursuits, that it is almost impossible for a man of business to read, much less to study, a title of that immediately relating to his own particular avocation; and with regard to the engineering profession, the superabundance of educational matter is far greater than in other branches of industry wherein a knowledge of the experience acquired by fellow-workers in the same field is much less important. Under these circumstances, it is almost impossible to over-estimate the value of a work that brings together, in a condensed and readable form, the contents of the principal professional publications of the old world and the new—assuming, of course, sound judgment and professional ability to be displayed in the production. Thoroughly comprehending how much advantage could be derived from such a book by engineers of all grades, Mr. D. VAN NOSTRAND, the well-known scientific publisher, of New York, commenced with the present year the issue of an **ELECTRIC ENGINEERING MAGAZINE**, of a character calculated to secure an extensive circulation, not only in the United States of America, but wherever the English language is spoken. The magazine is to consist not of mere reprints from other journals, but of careful abstracts, intended to convey the useful impression that would remain upon the mind of an expert after carefully reading the mass of matter from which it is derived. The conducting of the work has been entrusted to Mr. ALEX. L. HOLLEY, whose long experience as a practical engineer especially adapts him for the task he has undertaken. Judging from the January and February numbers, the idea, which must be acknowledged to be excellent, has been thoroughly realized, and the magazine cannot fail to become equally celebrated for interest and utility.

\* \* With this week's Journal a SUPPLEMENTAL SHEET is given, which contains—Prof. Warrington Smyth's Lectures at the Royal School of Mines—Iron and Steel Manufacture—Mine Engineering—Dictionary of Engineering—Preventing Loss of Life at Sea—British Railways as they are and as they might be—Popular Scientific Lectures—The Gold Fields of Scotland, by Dr. W. Lauder Lindsay—North of England Manufactured Iron Trade—Manchester Steam Users' Association—Suggested Improvements in Colliery Working—The Largest Rope in the World—Coal in Colombia—Foreign Mining and Metallurgy—Giant Blasting-Powder—Foreign Mine Reports—Curious Production of Gold.

## The Mining Market; Prices of Metals, Ores, &c.

METAL MARKET—LONDON, MARCH 12, 1869.

COPPER.		£ s. d.	£ s. d.
Best selected, p. ton	79	0	0
Tough cake and tile	76	0	0
Sheeting & sheets	80	0	0
Boards	83	0	0
Bottoms	84	0	0
Old (Exchange)	85	0	0
Burra Burra	81	0	0
Wire, per lb.	0	1	0
Tubes	0	11	0
BRASS.		Per lb.	Per ton.
Sheets	9d.	—	—
Wire	8½d.	—	—
Tubes	10½d.	—	—
YELLOW METAL SHEATH.		p. lb.	Per ton.
Sheets	7d.	—	—
Foreign on the spot	£21 15	0	0
" to arrive	22	0	0
ZINC.		Per ton.	Per ton.
In sheets	£27	0	0
TIN.		Per box.	Per box.
English blocks	125	0	0
Do., bars (in barrels)	126	0	0
Do., refined	139	0	0
Banca	129	0	0
Straits	127	0	0
TIN-PLATES.		Per box.	Per box.
IC Charcoal, 1st qua.	1	8	0
IX Ditto, 1st qua.	1	8	0
IC Ditto, 2d qua.	1	7	0
IX Ditto, 2d qua.	1	7	0
IC Coke	1	4	0
IX Ditto	1	4	0
Canada plates, p. ton	13	10	0
Ditto, at works	12	10	0
* At the works, 1s. to 1s. 6d. per box less.			

**REMARKS.**—The Metal Market has continued to exhibit its improved appearance during the past week, and there seems now little apprehension that it will again retrograde to any serious extent, although, of course, fluctuations may arise from time to time, yet we do not anticipate any hindrance to the progress which the trade generally is now making, but look forward to still increased activity arising as the season becomes more advanced. Commerce may now be said to be putting forward new energies in its recovery from the long period of depression which had visited it, and we have little doubt that it will manifest renewed vigour, and show that it is still powerful to make further progress and more extended advancement. Although there has not been quite so much excitement in the market for those metals, which have lately been unusually active, yet there is no decided falling off, but transactions appear for the present to be rather suspended, prices remaining firm, and there is not much question that we shall soon again see a renewal of energy in those particulars, although the business that is done may be more steady, and not marked by the speculative feeling which has lately been visible in it. Prices, generally, show an upward tendency, and it is by no means unlikely that advances in most metals will occur before long, as now that the movement has commenced there is every reason to expect that prices will again assume the tone exhibited in former years of prosperity. Orders still continue to come in with considerable freedom, and they are also of much greater extent than has been the case for some time past; and now that intelligence of the improved condition of the market here has reached foreign countries, as well as the distant parts of the empire, much more extended limits are being given out.

**COPPER.**—Advices received from Chili state the charters in the last half of January to be 3330 tons, 1600 tons being bar, and 1700 tons ore and regulus. The largeness of these shipments has caused the market to become increasingly flat, and Chili bar is now quoted at 71½ to 71½ 10s. cash. On Wednesday the English smelters officially reduced their prices 3½ per ton, making their present prices 78½ 10s. for tough cake, 80½ 10s. for best selected, and 82½ 10s. for sheets and sheathing, but as business has been already done upon lower terms these prices are merely nominal, the real prices being according to our quotations.

**IRON.**—In Staffordshire there is not much improvement in the demand. The local consumption is fairly good, and for hoops the orders are on a tolerable scale; but for plates the demand is very slack, and for other kinds, except railway iron, there is not much doing. The last month of the quarter having arrived without any improvement in the demand all hope of an advance of prices at quarter-day is now abandoned. In Welsh the orders just now given out are not so large or numerous as expected, many buyers not showing any anxiety to enter into fresh engagements. Despite this quietude, confidence in the future is unabated, chiefly from the fact that there are no heavy stocks, and it is also well known that requirements will be considerable during the spring and summer months. The contracts on the books of makers are sufficient to keep the rail-mills going for the next three months, and by that time it is believed engagements will be more freely offered. Several vessels are now loading iron for the United States, which are expected to be large customers this year. The Russian season is now opening, and heavy shipments are looked forward to. In Swedish iron there has not been so much doing during the week; the enquiry, however, continues good. In Scotch pig-iron the market has declined, the last price received from Glasgow being 53s. 3d. cash.

**LEAD.**—The market is now very active, and a considerable business has been done at firm prices.

**TIN.**—The market has not been so active during the week, operations appearing to be suspended for the present, waiting the result of the Dutch sale, to take place on April 1. Straits is still firm at 127½ cash, under which holders will not sell, but the amount of business transacted has not been large.

**SPELTER.**—Continues very firm in price, although the market is rather quiet. The quotation for parcels on the spot is 21½ 15s. to 22½.

**TIN-PLATES.**—Command a fair sale, and prices continue very firm.

**STEEL.**—A very much better business is now doing in foreign.

**QUICKSILVER.**—Without alteration.

**THE IRON TRADE.**—(Griffiths' Weekly Report).—The market here for finished iron continues quiet and inanimate. Parcels of all kinds under enquiry are small, and principally for home consumption. Fencing-rod, cable-iron, and small rounds for chains, and railway bolts have been in moderate request. We have no large contracts to report this week. We do not expect increased activity in any department until after quarter-day, and although no change in price is expected to take place at the Preliminary Meeting to be held in Birmingham at the end of this month, buyers will be likely to keep back until after this event. The rail market still presents a firmer aspect than any other department.—Old Broad-street, March 12.

**THE COPPER TRADE.**—Messrs. Vivian, Younger, and Bond.—By the telegraphic advices from Chili we learn that the quantity of copper charted for was again very heavy, amounting to 1600 tons of bars and ingots, and 1700 tons of fine copper in ores and regulus. Immediately on receipt of this news the English smelters reduced their quotations, making the prices for tough, 76½; best, 78½; and manufactured, 80½. The effect on the market of these two facts, but more especially the latter, has been most depressing; and though the smelters all refuse orders for tough ingots at their new rates, and many of them will not sell any raw copper at all at the prices they have fixed, consumers and shippers see in the reduction of English copper prices such an element of uncertainty, that whatever disposition there may have been previously to operate, seems at the moment to have been most effectually checked. It remains to be seen how far buyers will be obliged to make purchases, or if in a few days they will renew the feeling of greater confidence, which was being fast established just as the smelters put down the price. Prices of Chili produce have not suffered to the

extent which might have been expected, holders being fairly firm, and rather disposed to think the present position likely soon to be bettered. We report about 700 tons of bars sold since our last issue. The business done before the telegrams were received being at 72½ cash, and 73½ 10s. arrival, but at the end of the week 70½ 10s. cash, and 71½ distant arrival has been accepted. At the close prices are rather harder, 10s. advance on these rates having been paid. In other descriptions of copper things have been exceedingly quiet.

Messrs. James and Shakspeare.—Telegrams arrived on the 9th advising Chili charters during last fortnight in January for about 3300 tons pure metal, of which 1600 in bars and ingots, the remainder in ores and regulus; this news had a rather depressing effect, and the English smelters reducing their quotations on same day threw additional gloom over the market. It should be recollected, however, that heavy charters for a short period do not necessarily entail additional yearly exports from that part of the world; during 1868, for instance, the charters advised for the months of June and July were equal to 13,204 pure, and it was well known that the stocks on hand were sufficient to permit of almost immediate shipment, but, nevertheless, the succeeding months of August and September only brought advices of 4270 tons, thus bringing down the total for the four months to nearly the usual average. The charters advised for December and January last amounted altogether to 11,678 tons, but, as stocks were moderate, a good portion of the said quantity will not leave the coast before this or the next month; no doubt this "forward" chartering is the cause of such heavy advices, for a large fleet of vessels being in Valparaiso, and no proportionate amount of freight offering, captains have been compelled to wait an unusually long time for their cargoes rather than return in ballast. From this last cause we should not be surprised even at the next mail bringing rather large charters, but the reduction further on will, doubtless, be in proportion to the excess now advised. The sales since Friday last amount to about 650 tons bars, from 72½ 10s. down to 70½ 10s. for cash parcels, according to brand, and 73½ to 72½ for arrival, the lowest cash prices being paid for second-hand lots, imports not being willing to meet the decline; within the last day or two quotations have been steadier, and it is not possible to buy much at the values given in our list. Chili ingots have not given way proportionately with other sorts; they, therefore, remain without transactions. In Australian brands we note a fall of about 20s. per ton, but the only parcels now offering are in second hands. English was reduced on the 9th inst., and prices fixed at 76½ for tough, 78½ for select, and 80½ for India sheets; the smelters, however, refusing orders for the first-named quality in ingots, at their nominal quotations.

The MINING SHARE MARKET has been very dull this week, in comparison with last; and the reason assigned for it is that in the excitement caused by the great rise in tin of late, a great many shares in different mines were purchased merely for a rise in the market, and previously to the settling on Friday they had to be re-sold, so that prices were affected by over-speculation, and not by any change in the mines. This view is confirmed by the fact that after the settling, which was very heavy, the market improved. The standard for copper ores declined on Thursday 17½ 10s. per ton. The chief business of the week has been in West Chiverton, Chontales, East Grenville, Grenville, Prince of Wales, Drake Walls, West Frances, Great Wheel Vor, Wheel Chiverton, Mineral Bottom, Don Pedro, Providence Mines, Rosewall Hill and Ransom United, South Condurow, Uny, Seton, Taquaril, Great Laxey, Great North Laxey, New Lovell, &c. East Caradon, 8 to 8½; the counter lode is poor; Child's lode is worth in the 90 east 15½ per fathom; the 90 west, 15½ per fathom; the 80 west is poor; the 70 west, 20½ per fathom; the 70 east, 5½ per fathom. East Grenville, 4½ to 4½; the 120 east is worth 1 ton per fm.; the 75 east, 2 tons per fm.; the 55 east, 4 tons per fm.; the rise above the level, 3 tons per fathom. Prince of Wales shares have been weaker, at 20s. to 22s. 6d.; the lode in the 65 west is worth 10½ per fathom; in the 65 fathom level east a horse of killas has disordered the end. Drake Walls shares have been largely dealt in, at 20s. to 22s. 6d.; the monthly sale of tin took place on Tuesday, and 13 tons realised 939½, or 72½ 6s. per ton; at the last meeting, in January, the tin sold for about 62½ per ton, and 13 tons at that price left a monthly profit of 150½ to 200½, so that the rise of 10½ per ton will materially increase the profits. Bedford United, 1½ to 2½. Chiverton Moorshares have been firmer, at 4½ to 5; Cook's Kitchen, 13½ to 14½.

Great North Laxey, 30s. to 35s.; at the annual meeting, held on Thursday, particulars of which will be found in another column, it was agreed to issue 2500 shares, of 1½. each, *pro rata* to the present shareholders, which will make the total number the same as in Great Laxey. The prospects of the mine have greatly improved, and the agent is very sanguine as to shortly having a profitable mine. Rosewall Hill and Ransom United, 30s. to 35s.; at the meeting, held on the 6th, the accounts to end of December last showed a balance against the mines of 2919½ 17s. 6d., and a call of 2452½ (10s. per share) was made. The carbons, east of Ransom, is worth 50½ per fathom. In western mine the carbons is worth from 50½ to 60½ per fathom north, and going south worth 25½ per fathom. Devon Great Consols, 280 to 300; Dolcoath, 525 to 575; East Basset, 6 to 7; East Carn Brea, 5s. to 7s. 6d.; East Looe, 8½ to 9½; Frank Mills, 3½ to 4; Don Pedro del Rey, 4½ to 4½; according to the directors' report the gold raised during 1868 was 23,613 ozs., which realised the sum of 89,901½ 11s. 5d. The cost for same period has been 29,739½ 18s. 1d.; profit on the year, 60,573½ 6s. 2d. The dividends declared for the quarters ending March, June, and September absorbed 31,226½ 8s. 5d., leaving 30,623½ 19s. 1d. in hand. The dividend proposed is 23,419½ 16s. 4d. (6s. per share), making, with the dividends already paid, a return for the year of 14s. per share, or 100 per cent. on the capital of the company. Other gold shares have improved, and General Brazilian are quoted 13s. to 15s.; Taquaril, 12s. to 13s. Chontales Gold shares have also advanced to 25s., 30s.; Frontino and Bolivia, 4 to 4½; Great Laxey, 19 to 20; Great Western, 2 to 2½; Great Wheel Vor, 14 to 15; Herodsfoot, 43 to 45; Marke Valley, 8½ to 9; North Wheel Croft, 20s. to 22s. 6d.; North Roskear, 1½ to 2; North Treskerby, 15s. to 17s.; Providence Mines, 38 to 40; South Condurow, 23s. to 25s.; South Caradon, 360 to 380; South Herodsfoot, 20s. to 22s. 6d.; St. Ives Consols, 17 to 20; Stray Park, 7 to 8; Tincroft, 18 to 18½; Trumpet Consols, 19 to 20; West Caradon, 4 to 6, call paid; West Chiverton, 5½ to 5½; West Drake Walls, 5s. to 7s. 6d.; West Great Wheel Vor, 14 to 15; West Seton, 200 to 210; Wheel Basset, 70 to 75; Wheel Buller, 7½ to 10; Wheel Chiverton have fluctuated, and leave off 3½ to 4½; Wheel Crebor, 10s. to 12s. 6d.; Wheel Grenville, 45s. to 47s. 6d.; Wheel Margaret, 7 to 9; Wheel Seton, 70 to 75; Wheel Trelawny, 8 to 9; Wheel Uny, 3½ to 3½; Yudanamatana, 1½ to 2. Wheel Mary Ann, 19 to 20; at the meeting, held on Tuesday, the accounts showed a profit of 921½ 7s., and a dividend of 17s. 6d. per share was declared, leaving 1588½ 0s. 1d. in hand. West Chiverton telegram, received at 4:30—"In the 120 west a fine lode, worth full 40½ per fathom; the 110 fm. level ends west improving. The mine is looking well."

The market for Mine Shares on the Stock Exchange during the week has been dull till towards the close, when a good demand sprung up for Don Pedro, General Brazilian, and Taquaril shares, stimulated by the recent satisfactory advices, and prices have advanced. There has also been a fair business done in British mines, Van shares being in demand, closing 21½ to 22½; the lode is being cut into in the 30, or 15 fms. deeper; a rich course of ore. The lode is eight times the width of an ordinary lode, with a course of ore from side to side. The addition of 15 fms. of backs is equal to 120 fms. on an ordinary lode. The mine is attracting considerable attention. Great Wheel Voss are 14 to 15; the water has risen to the 190, but it will not impede the sampling, and the accident is repaired. West Chiverton, 51 to 52; Chiverton, 3½ to 4; Glan Alun, 12s. to 13s. Don Pedro buyers predominate; price, 3½ to 4½. Rossa Grandes no feature, at ½ to ½ prem. Taquaril are firmly held, at 4s. to 5s. Sao Vicente, par to ½ prem. Anglo-Brazilian quiet, at 3-16ths to 1-16th dis.; Chontales, 1½ to 1½. Port Phillips have been more offered, but are firmer, at 1½ to 1½. Frontino and Bolivia have risen to ½; Yudanamatana, 1½ to 2; Capula, ½ to 1½. General Brazilians in active demand, at 5s. 6d. to 6s. 6d. prem.

**IRISH MINE SHARE MARKET.**—The market for mining securities has far surpassed in activity the demand in the general share market, there having been but few orders for the latter on hand this week, while mining shares were largely dealt in at strongly advancing prices. Mining Company of Ireland shares (7½ paid), which closed last week rather heavy at 11½ 12s. 6d., have since been most dealt in, and realised a total advance of 15s. per share, 12½ 7s. 6d. to 12½ 10s. being now the current quotations. But Wicklow Coppers, which have been the favourites for the past week or two, continue steadily to improve, and have since last Saturday gone up fully 17s. 6d., the last prices realised being from 12½ 17s. 6d. to 13½ 21s. 6d.; sellers at 13½ 2s. 6d. Killaloe Quarry shares have receded 3d. each, business having been done at 17s. 3d. (17½ paid). Connorrears are 6d. per share lower, 3s. 6d. each having recently been paid. General Mining Company for Ireland shares (6½ 10s. paid) have been purchased at 16s., an amount of discount submitted to which can only be accounted for by the liability to heavy calls, which, however, may never be re-



quired. Arklow Chemical (12. 10s. paid) have changed hands at 6d. prem. of 12. 10s. 6d.

At Redruth Ticking, on Thursday, 607 tons of ore were sold, realising 28217. 6s. The particulars of the sale were:—Average standard, 1011. 14s.; average produce, 7½; average price per ton, 2. 13s.; quantity of fine copper, 44 tons 3 cwt. The following are the particulars of the sales during the past month:—

Date.	Tons.	Standard.	Produce.	Per ton.	Per unit.	Ore copper.
Feb. 11	1529	1016	4 0	6½	24 2 0	128. 9d.
" 18	3102	113	2 0	2½	3 13 0	12 10
" 25	1478	100	7 0	7½	5 4 0	13 13d.
March 4	1069	104	0 0	7	4 9 6	12 9½
" 11	607	101	14 0	7½	4 13 0	12 9½

Compared with last week's sale, the decline has been in the standard 17. 13s., and in the price per ton of ore about 2s. 6d. Compared with the corresponding sale of last month, the decline has been in the standard 2½, and in the price per ton of ore about 3s.

At East Pool Mine meeting, on Monday, the accounts for December and January showed a credit balance of 688. 11s. 9d. The profit on the two months' working was 656. 7s. 1d. A dividend of 640s. (5d. per share) was declared, and 48. 11s. 9d. carried to credit of next account. Capt. Garby, Maynard, and Hosking reported upon the various points of operation.

At Wheal Mary Ann meeting, on Tuesday (Mr. J. C. Isaac in the chair), the accounts for the three months ending December showed a credit balance of 2484. 0s. 1d. The profit on the three months' working was 2217. 7s. A dividend of 896. (17s. 6d. per share) was declared, and 1588. 0s. 1d. carried to credit of next account. Capt. Clynno, Harris, Stevens, and Skeat reported upon the various points of operation. The hydraulic engine not being equal to the work required of it, Messrs. West and Sons will put up another suitable engine, that shall answer the purpose in every respect, free of expense, with the exception of building a new engine-house, &c., as contemplated at the first meeting.

At the Great Western Mining Company meeting, on Tuesday (Mr. Edward Cooke in the chair), the accounts showed a credit balance of 6037. Details in another column.

At the Great North Laxey Mining Company meeting, on Thursday (Mr. Buller in the chair), it was unanimously resolved that the directors be authorised to increase the capital by the creation and issue of 2500 ordinary shares of 1l. each, payable forthwith, such shares to be offered in the proportion of one for every five of the present holding. Details in another column.

At the West Caradon Mine meeting, on Thursday (Mr. Milford in the chair), the accounts showed a debit balance of 1739. 16s. 5d. A call of 2d. per share was made. Details in another column.

At the Great Cwmymlog Mining Company (Limited) meeting, held at the offices of the company, on Monday, Mr. John James Harris (Addis and Harris), accountant, 25, Old Jewry, E.C., was appointed the liquidator.

At Central Snailbeach Mining Company, held at Shrewsbury, on Tuesday (Mr. Job Taylor in the chair), the Chairman moved a special resolution for a voluntary winding-up, which upon being put to the meeting was negatived. Mr. Kough proposed a series of resolutions for creating 10 per cent. mortgage debentures to the amount of 25000, such debentures to be placed pro rata amongst those shareholders disposed to accept them; but upon its being put to the meeting it was lost—4085 votes being given in favour, and 7723 votes against. Mr. Darwent proposed certain resolutions, giving preference rights to the 8000 shares created in July, 1867, but the proposition was limited by amendment, and it was ultimately resolved that of the 24,000 shares, of which the company's nominal capital now consists, the 4244 remaining unissued shall be considered preference shares, and entitled to double the dividends paid upon the other 19,756 already issued. These 4244 preference shares are to be entitled to have all moneys paid upon them returned out of available assets in the event of winding-up or dissolution of the company. The directors are forthwith to take the necessary steps to have the shares legally created and offered to the shareholders. Capt. J. Killo reports that nothing new has taken place, except the cutting of the lode in the 200 yard level cross-cut—it looks very promising indeed.

From East Snafell Capt. W. H. Rowe reports that the present end of the 35 south is in closer ground, but there is a regular leader of jack and spar—they hope for an improvement shortly. The unfavourable beds of spar have left the lode altogether, and gone off to the south-west.

From New Westminster Captain Wm. Killo reports that they are putting up a rise to communicate with the old works at Ebury, which will give them good ventilation, when they expect productive ground both on Ebury and Westminster lodes.

From Caradon Consols Capt. S. Bennetts recommends pushing on the cross-cut north with all speed, even to the engine lode, and sinking the shaft 10 or 15 fms. deeper, as may be thought best.

The Bank of England return for the week ending on Wednesday evening shows in the ISSUING DEPARTMENT an increase in the "notes issued" of 30,315, which is represented by a corresponding increase in the "coin and bullion" on the other side of the account. In the BANKING DEPARTMENT there is shown an increase in the "public deposits" of 976,963; in the "other deposits" of 899,797; in the "seven day and other bills" of 9983; and in the "rest" of 14,126;—1,869,971; and, deducting therefrom 1,407,159, the increase in the "other securities," on the other side of the account, there remains an increase in the total reserve of 462,812.

COAL MARKET.—The fresh arrivals this week only number 85 ships. The cold weather greatly improved the demand for house coals, and we quote a rise in prices of fully 6d. per ton. Hartley's have also been in request at an advance of 3d. Hetton Wallsend, 17s. 6d. per ton; Haswell Wallsend, 17s.; Elliot's Wallsend, 16s.; Hartlepool Wallsend, 16s.; Kelloe Wallsend, 15s.; Gosforth Wallsend, 14s.; Hetton Lyons Wallsend, 14s. 3d. Unsold, 10 cargoes: 5 ships at sea.

SOCIETY OF ENGINEERS.—On Monday, a paper will be read on "Joists for the Prevention of Leakage in Gas and Water Mains," by Mr. C. M. Barker.

## THE ASSOCIATION FOR THE PREVENTION OF STEAM BOILER EXPLOSIONS.

The ANNUAL GENERAL MEETING of this Association was HELD at the Town Hall, Manchester, on TUESDAY, March 9th.

WILLIAM FAIRBAIRN, Esq., LL.D., F.R.S., &c., in the chair.

When the following resolutions were adopted:—

Moved by the CHAIRMAN, seconded by HUGH MASON, Esq. (Ashton-under-Lyne), and unanimously resolved:—

That the report of the committee of management to the subscribers be adopted. Moved by HENRY E. GREG, Esq. (Stockport), seconded by JABEZ JOHNSON, Esq. (Bolton), and unanimously resolved:—

That the name of this Association be modified, and instead of remaining as at present, "The Association for the Prevention of Steam Boiler Explosions," and for the Attainment of Economy in the Use of Steam, that it be henceforward "The Manchester Steam Users' Association for the Prevention of Steam Boiler Explosions, and for the Attainment of Economy in the Application of Steam," so that it may be cited in brief as "THE MANCHESTER STEAM USERS' ASSOCIATION."

Moved by THOS. SCHOFIELD, Esq. (Cornbrook), seconded by POOLEY, Esq. (Manchester), supported by Wm. RICHARDSON, Esq. (Oldham), and unanimously resolved:—

That this meeting bears with satisfaction, that steps have been taken during the past year for arousing public attention to the present unsatisfactory character of the investigations conducted by Coroners regarding the cause of steam boiler explosions, as well as to the erroneous verdicts constantly returned, and requests the committee of management to take such further steps as they may find necessary to secure these investigations being rendered more satisfactory, so that the truth may be fully arrived at, and plainly spoken in each case, in order to prevent the constant recurrence of these fatal catastrophes. Moved by SAM'L. RIGBY, Esq. (Warrington), seconded by RICH'D. COWELL, Esq. (Patriarch), and unanimously resolved:—

That the benefits derived from membership with this Association are not confined to questions of safety merely, but embrace others of importance to steam users, such as the prevention of smoke, the best construction and equipment of boilers, &c.

Moved by GEORGE PEEL, Esq. (Manchester), seconded by—HOLDSWORTH, Esq. (Bolton), and unanimously resolved:—

That the thanks of the Association are due, and are presented to the President, Vice-Presidents, and committee of management for their past services, and that the following gentlemen be elected for the ensuing year:—

PRESIDENT.

WILLIAM FAIRBAIRN, Esq., C.E., F.R.S., LL.D., &c., Manchester.

VICE-PRESIDENTS.

THOMAS BAZLEY, Esq., M.P., Manchester.

HUGH MASON, Esq., Ashton-under-Lyne.

JOHN PENN, Esq., C.E., F.R.S., Greenwich.

JOSEPH WHITWORTH, Esq., F.R.S., Manchester.

EXECUTIVE COMMITTEE.

CHARLES F. BEYER, Esq., Gorton.

ADAM DUGDALE, Esq., Blackburn.

HENRY R. GREG, Esq., Stockport.

CHARLES HEATON, Esq., Bolton.

JOHN HOLDSWORTH, Esq., Eccles.

WM. HUNTER, Esq., M.P.

JOHN LANCASTER, Esq., Halifax.

JOHN LANCASTER, Esq., M.P. (Wigan Coal and Iron Company).

JABEZ JOHNSON, Esq., Bolton.

JAMES MC CONNELL, Esq., Manchester.

JAMES PETRIE, Esq., Rochdale.

WM. RICHARDSON, Esq., Oldham.

SAMUEL RIGBY, Esq., Warrington.

WILLIAM ROBERTS, Esq., Burnley.

THOS. SCHOFIELD, Esq., Cornbrook.

JAMES TAYLOR, Esq., Wigan.

WRIGHT TURNER, Esq., Pendleton.

Mr. FAIRBAIRN having vacated the chair, it was taken by HUGH MASON, Esq. Moved by WRIGHT TURNER, Esq. (Pendleton), seconded by THOS. SCHOFIELD, Esq. (Cornbrook), and carried with acclamation:—

That the thanks of the Association are due, and are cordially given, to Wm. Fairbairn, Esq., C.E., F.R.S., LL.D., &c., for presiding at this meeting, as well as for the interest he has always taken in the welfare of the Association, and the constant service he has rendered. ROBERT TONGE, Secretary.

41, Corporation-street, Manchester, March 9, 1869.

IN THE TOWER FOUNDRY IS THE TYNE DEPOT FOR MACHINERY of every description for WOOD and IRONSTONE, CORN-CRUSHING, and PUG MILLS. Also, AGRICULTURAL IMPLEMENTS.

PROPRIETOR—G. HARLE, JUN.

No. 49, MAPLE STREET, NEWCASTLE.

PURCHASERS OF PORTABLE ENGINES AND STEAM CRANES will do well to ask G. HARLE's price for the same.

## TO CAPITALISTS, COMPANIES, ETC.

A MINING ENGINEER, of LARGE EXPERIENCE, both in the COLLIERIES and MINE WORKS of SOUTH WALES, and in IRON MINES ABROAD, and now residing and holding an important mineral agency in Wales, has a part of his time unoccupied, and is OPEN to MAKE ARRANGEMENTS with any GENTLEMAN or COMPANY who may wish to employ him in the INSPECTION or SUPERINTENDENCE of MINING WORKS or PROPERTIES.

He is thoroughly acquainted with sound practical COAL and IRON MINING, and their correlative branches, and can produce the highest references as to respectability and competency. Reports, surveys, and valuations made, and railways, inclines, &c., planned and superintended.

Address—"Alpha, Ft. T." Pontypridd, Glamorganshire.

TO LEAD SMELTERS, &c.—WANTED, by the Advertiser, a SITUATION as ASSAYER. References on application. Address, "Plumbum," General Post Office, Bath.

TIN MINING IN CORNWALL.—The Advertiser would be glad to CO-OPERATE with a FEW PARTIES in WORKING some TIN GROUND in one of the best tin producing districts in the county. Full particulars on application to Capt. JOHN EDWARDS, St. Stephens, St. Austell, Cornwall.

## TO CAPITALISTS, COMPANIES, &c.

A GENTLEMAN, long interested in MINING OPERATIONS, but without means of proving certain promising LEAD MINE TRIALS in a LEAD MINING LOCALITY, would gladly COMMUNICATE his KNOWLEDGE relative to such MINES to any individual or company capable of developing them.

Address, "Box 20," MINING JOURNAL Office, 26, Fleet-street, London, E.C.

WANTED, a SITUATION, by a good practical ASSAYER and ANALYST, or to MANAGE COPPER SMELTING or other works, or to BUY ORES at home or abroad. Good references given, and good salary required. Address, F. J. MERRY, 4, Elliott-street, Swansea.

WANTED.—A PERSON accustomed to the trade to SELL, in the Southern Districts, the COAL from a large SOUTH YORKSHIRE COLLIERY. Apply to "G. W.," MINING JOURNAL Office, 26, Fleet-street, London, E.C. March 4th, 1869.

WANTED, by an experienced Man, a SITUATION as MANAGER of a LEAD, COPPER, or IRON MINE. No objection to go abroad. Testimonials on application. Address, "A. J.," MINING JOURNAL Office, 26, Fleet-street, London, E.C.

WANTED, by the OAK PITS COLLIERY COMPANY (LIMITED), Mold, North Wales, an UNDERGROUND STEWARD. None need apply but a thorough practical man, with good references, &c., stating age and salary, and where last employed.

## TO CAPITALISTS.

WANTED, a RESPECTABLE PARTY to JOIN in WORKING an excellent SLATE AND SLAB QUARRY, or a PART of the PROPERTY would BE SOLD. No one need apply but respectable capitalists, who could give good references. Apply, by letter, to Mr. H. W. JONES, 5, Earl-street, Wrexham.

WANTED.—THE "MINING JOURNAL," posted in London on TUESDAY after publication. Address, with price, "E. J. B.," care of Mr. Brooks, 4, Bell's-buildings, Salisbury-square, E.C.

WANTED TO PURCHASE, TEPLITZ COLLIERY ROYALTIES. Apply to Mr. CARNE, 12, North Buildings, Broad-street Terminus, E.C.

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DON PEDRO NORTH DEL REY GOLD MINING COMPANY (LIMITED).—Notice is hereby given, that the SEVENTH ORDINARY GENERAL MEETING of the company will be HELD at the London Tavern, Bishopsgate-street, on THURSDAY, the 18th day of March instant, at Two o'clock precisely, for the transaction of the business of the company, including the election of directors and auditors, and the declaration of a dividend.

And further notice is hereby given, that at the close of the above-mentioned Ordinary General Meeting, an EXTRAORDINARY GENERAL MEETING of the company will be HELD at the same place, when a resolution will be submitted for adding a new article to the company's Articles of Association, authorising the directors to appoint a managing director of the company. The Transfer-books of the company will be closed from the 9th to the 18th instant, both days inclusive.

By order of the Board, JOHN E. DAWSON, Secretary.

52, Moorgate-street, March 8, 1869.

CHONTALES GOLD COMPANY.—FULL PARTICULARS of the DIFFERENT CLASSES of SHARES can be obtained on application to Mr. J. H. MURCHISON, No. 8, Austinfriths, E.C.

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The prospectus, with Colonel GOWEN's report upon the position of the Galleons, can be obtained at the offices of the company, 5, Lothbury, E.C., where the copy of the Royal Decree, authorising the recovery of the treasure, the agreement with the Concessionaire, and other documents connected with the matter, can be seen.

APPLICATIONS for DEBENTURES in the above will be RECEIVED up to WEDNESDAY, 17th March.

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THE Directors of the GAS-LIGHT AND COKE COMPANY will be prepared to RECEIVE TENDERS, on or before Thursday, the 25th day of March inst., for the SUPPLY of from EIGHTY THOUSAND TONS to ONE HUNDRED THOUSAND TONS of NEWCASTLE GAS COAL, or their equivalent in coal of a superior quality. Particulars, as to delivery, &c., to be obtained at this office.

By order, JOHN ORWELL PHILLIPS, Secretary.

Horseferry-road, Westminster, March 11, 1869.

Royal School of Mines, Jermyn Street.

PROF. GOODEVE, M.A., will COMMENCE a COURSE of THIRTY-SIX LECTURES, on APPLIED MECHANICS, on TUESDAY next, the 16th inst., at Twelve o'clock, to be continued on each succeeding Wednesday, Thursday, and Tuesday, at the same hour. Fee for the course, 2s. TRENHAM REEKS, Registrar.

## IMPORTANT NOTICE.

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"	" ditto	7½	9 0	P. Glover.
March 5	Minera	100	12 14 6	Walker, Parker, & Co.
"	" ditto	100	12 14 6	" (Co.
"	" ditto	66	12 17 0	Delafield White Lead
"	" ditto	43	12 16 0	P. Glover.
"	" ditto	100	12 14 6	Walker, Parker, & Co.
"	" ditto	46	12 17 6	P. Glover.
"	" ditto	41	12 14 6	Walker, Parker, & Co.
8	Trewetha	27	24 5 6	Stock and Co.
"	Gloglawr	40	14 0 6	" ditto
"	Goginan	34	17 2 6	Weston & Collingborn
"	Frongoch	120	11 11 6	Walker, Parker, & Co.
"	Graigoch	32	12 1 6	ditto
"	East Darren	75	16 4 6	ditto
"	Cwm Eryn	45	16 1 0	ditto
10	Prince Arthur Consol.	39	14 8 0	Burry Port Co.
"	" ditto	9	10 2 6	Treffry's Estate.
11	Van	100	13 11 6	Walker, Parker, & Co.
"	" ditto	13	11 6 6	" ditto
"	Talargoch	48½	13 7 6	A. Eytton.
"	" ditto	106	14 5 6	Walker, Parker, & Co.
"	Holywell Level	68	12 3 6	ditto
"	Bryn Gwlog	23	13 1 6	ditto
"	Trelogan	10	13 1 6	ditto
"	" ditto	10	13 1 6	A. Eytton.
"	Deep Level	20	12 16 6	Walker, Parker, & Co.
"	Great Rhosman	5	11 5 6	ditto
"	New Westminster	5	11 8 6	ditto
"	" ditto	5	11 8 6	A. Eytton.
"	Wagstaff	14	11 6 6	ditto
"	Sir Edward	6	13 2 6	Walker, Parker, & Co.
"	" ditto	4	11 11 6	ditto
"	North Henblas	5	11 1 6	ditto
"	" ditto	2	4 10 0	ditto
"	Pennant	7	12 3 6	ditto
"	North Hendre	7	12 5 0	A. Eytton.
"	" ditto	4	13 5 6	Walker, Parker, & Co.
"	Machno	7	11 16 0	ditto



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### Notices to Correspondents.

**OXIDE OF ZINC.**—Reference was made some time since in the Journal to an Irish Mining Company putting up an oxide of zinc works. Can any reader oblige me with the name and address of the company?—W. J.: Swansea.

**NEW WENDRON CONSOLS—TRUMPET UNITED.**—By an unfortunate error in copying the above Stannaries Court advertisements for last week's Journal the notice of call for 12 per share was advertised as being made on Trumpet United Class A shareholders; it should have been on New Wendron Class A shareholders.

**EAST CARN BREA.**—As a shareholder in this mine, I have received the statement of accounts and report, and which I think places the mine in a more unfavourable position, by making a call of 2s. 6d. per share, than it warrants. Arrears of calls, 848l. 10s.; copper ore sold, 379l. 5s. 7d.; making 1227l. 15s. 7d.; balance due to the treasurer, 826l. 2s. 1d., which would leave a credit balance of 402l. 13s. 6d. Now, I think before making a call upon the present shareholders they should get those arrears paid in.—A. F.

**NEW QUEBRADA.**—"An Original Shareholder" will find a full illustrated description of Mr. Hodgson's Wire Tramway System in the *Mining Journal* of Feb. 29. Reference to that article will better serve the purpose.

**NORTH WHEAL CHIVERTON.**—Will you kindly insert a few remarks on the balance-sheet just issued to the shareholders in this mine? The cost is made up to the end of January, and a balance of 477l. 1s. 9d. in favour of the mine; but, on looking at the "assets," I find "arrears of call, 440l.," representing no less than 880 shares—surely, a large proportion out of 3000; and I would respectfully ask the committee if it is fair to those who pay their calls that so many should escape without even a threat of legal proceedings against them? As a precedent for this they have North Trekerby, who purpose doing so, with only 90l. 9s. 2d. arrears on 6936 shares.—H. H. W.

## THE MINING JOURNAL,

Railway and Commercial Gazette.

LONDON, MARCH 13, 1869.

### COAL MINING IN THE SOUTH-WEST LANCASHIRE AND NORTH WALES DISTRICT.

This is the district of which Mr. PETER HIGSON is the Government Inspector. The readers of the *Mining Journal* know but too well that recently the accidents in it have been painfully numerous. Because of this state of things Mr. HIGSON is reasonably vexed; he regards it as having placed the persons immediately concerned in an unenviable position before the public; at the same time, it has drawn attention to a condition of affairs which should cease to exist as soon as possible. To hasten this consummation Mr. HIGSON has issued a circular letter, of which a copy lies before us. The Inspector epitomises the accidents as having happened from inflammable gas and gunpowder, from shots igniting while being stemmed, from falls of roof and falls of coal, from recklessly running trams and tubs below ground, by travelling on and being at the foot of inclined planes while the machinery was in motion, from unskilful winding, from incautiously moving railway trucks above ground, and by attempting to extinguish standing fires in mines with water. How in the future certain of these accidents are to be as much as possible avoided Mr. HIGSON throws out suggestions, and intimates in some cases, and directly notifies in others, the course which, as Inspector, it is his intention hereafter to pursue respecting them. Mr. HIGSON is to be commended for what he is doing. Therein he is fulfilling the highest duty of his calling, which we take to be not alone the enforcing of the pains and penalties incidental to infractions of the law, but the making of suggestions tending to diminish breaches of the Act. Whilst the mining engineers of Great Britain do not all look to find in the Government Inspectors men of professional skill surpassing their own, still the Inspectors' suggestions are received with respect upon every hand, and in many quarters they fall with a weight always attaching to official position. Mining engineers appreciate the recommendations of the Inspectors, for they give additional force to their own instructions in quarters where such emphasis is too often needed. With cordiality, therefore, the leading men of South-West Lancashire and North Wales welcome Mr. HIGSON'S "Circular." Too well they know that in the diminishing of the death rate the main difficulty is, as Mr. WARINGTON SMYTH puts it, "the necessity of keeping up an increasing watchfulness among many thousands of men, workmen as well as managers. Indeed, as was to have been expected, Mr. HIGSON'S "Circular" has relation more to the everyday work of the pit than to the business of men whose office it is to lay out, and then to give instructions which others are to see effected.

In the forefront of the document reference is made to the neglect of the firemen and miners in failing to fix props and sprags till the places become "actually dangerous from falls." These men, he

shows, trust to sounding the roof and sides with a hammer or pick, although they must now know that large blocks of stone will sound solid, and then fall without warning. "To avoid loss of life from this source almost daily caution seems necessary. Props should be regularly fixed in all working places within a short distance from the face, even though the roof may appear to be safe." The prudence of these suggestions is so self-evident as almost to be trite; yet the necessity for their iteration is the more conspicuous when it is borne in mind that in an average year very many more lives are sacrificed by falls than by any other kind of accident. Moreover, the deaths from this cause are on the increase. In 1866 there were a total of 361, but in 1867 they numbered 449. The increase was distributed over the five districts in the care respectively of Mr. HIGSON, Mr. F. N. WARDLE, Mr. T. WYNNE, Mr. J. P. BAKER, and Mr. RALPH MOORE. The advance in Mr. WYNNE'S district was from 11 (roof and coal) in 1866 to 27 in the year following, and Mr. HIGSON'S figures under this head rose from 37 to 53. In each case the increase was 16 upon the year; but, inasmuch as Mr. WYNNE'S advance took place upon a larger output in the year of 500,000 tons, and Mr. HIGSON'S occurred in connection with an advance of 350,000 tons, the advance in the year was slightly larger in Mr. HIGSON'S than in any other district. In North Staffordshire, Cheshire, and Shropshire the total got was 5,500,000 tons in 1866, and 6,000,000 tons in 1867. In West Lancashire and North Wales it was 8,000,000 tons at the earlier, and 8,350,000 tons at the later date. The necessity for the rapid utilising in recent years of labour which has not been trained in underground operations has something to do with the increase of deaths from falls of roof and coal. So long as the men are inapt at spragging their work duly qualified deputies should see to it. Wherever a roof is treacherous constant supervision is needed; and it must not be forgotten that the neglecting to remove a prop will sometimes bring about serious consequences in producing an irregular fracture, at the same time that the removal of timber at too early a juncture may be dangerous. With intelligent personal supervision much of the discredit attaching to our mining in a faulty district, like that of Mr. HIGSON'S, would be removed, for their ignorance or supineness, and blind confidence, would not be allowed to occasion the terrible mischief that we now grieve over.

Similar oversight must accompany the use of gunpowder in those cases in which alone it should be used, for where mines emit inflammable gas blasting should be at once discontinued. This is the burden of Mr. HIGSON'S very judicious recommendation on this head. We are sorry he should be able to add, after all that has been said on the subject, that "in blasting, an iron instead of a wooden or copper rammer is too often used in getting the wadding and first part of the stemming fairly bedded on the powder." Nor where a charge has missed fire should it be drawn; a second shot should be placed near enough to fire both charges. What we recollect Mr. SMYTH somewhere terms the "anomaly" of gunpowder being used in pits where lamps are necessary should not be found in these days. Soon, we trust, Mr. BIDDER or Mr. CHUBB will make the flashing, with all its derangement of ventilation, even when there is no explosion, a practice of the past; but until that takes place, and blasting is anywhere adopted, let the men be urged to maintain presence of mind, which with a wet cloth will often avert a threatened disaster. And when a pit has taken fire without an explosion, let it be attempted to put it out, not with water, but by stopping the access to it of atmospheric air, which, too, Mr. HIGSON suggests. He says likewise that the many lives lost annually on incline planes has shown the "absolute necessity of preventing persons going thereon, and of separate and distinct roads for them to travel on to and from their work."

The attention of all whom it may concern is called "to a system which has recently grown into a source of evil; it is that of leaving small pillars of unworked coal too far behind the main group of workings, surrounded on three sides by the goaf. Such outlying portions of coal can only be recovered under great and unnecessary risk, loss of life therefrom being of frequent occurrence. This, generally (Mr. HIGSON continues) is an unmistakable mark of bad management, which should in all cases be avoided." No doubt it should. The Inspector calls the attention of his district to the 8th general rule, which, he says, "does not appear to have been generally observed," reminds them of the ulterior consequences of neglect or omission of that rule (which requires signals and places of refuge in connection with underground planes), and its collateral special rule; and, then, in the terms which mean business ("I do hereby give you notice") requires the observance of the 9th general rule, which relates to overhead covers in all working pits or shafts, except in those worked by a gin or windlass, or when sinking is going on, or the pumps are being looked to, or in special cases, for which his written exemption has been previously obtained.

The only other topic discussed in the "Circular" relates to bratticing—a subject upon which Mr. HIGSON, it will be remembered, expressed his decided opinion at recent inquests in his district. We have given it this place because it relates more to the higher departments of management than most of the other matters discussed, and because, further, there are some men—we wish their number were fewer—who do not see all the risk which extensive bratticing occasions. Mr. HIGSON intimates that as bratticing so frequently gets deranged strong objections will be raised in future to its extensive use. Although it may be indispensable, he says, for conducting the ventilation from one cut through to another on the main roads when the length is limited, it should not be made a reliable means of ventilating workings in previously unexplored ground, nor until the gas has been partially drained off by double air-roads. All this is good advice. It is not needed by many men, and Mr. HIGSON knows where in his district some of them are to be found. If others, at a sacrifice of certain safety, run the risk involved in the "Oh, it will do" practice, in order that the coal may be got cheaply, we remind them that when accidents occur proprietors who have not had their professional training cast upon them reflections which a viewer's readiness to get the property at a low price will not stifle, but which would not exist if the viewer had remembered the full weight of his responsibility, and had ever borne in mind that in scientific more than any other professions there is an *esprit de corps*, which no member of the calling should ever allow to forsake him.

### THE STRIKE IN SOUTH YORKSHIRE.

The struggle for the enforcing of Unionism upon Mr. HUNTSMAN and his men still continues, and we are sorry to say is still signalised by violence towards those at work by the men who are unwilling to accept what they are anxious to earn—a fair day's wages for a fair day's work. Again men have been mobbed and hounded, again the magistracy have had to be invoked, again there have been commitments, and again the Union have bailed out the offenders till the decisions of the magistrates can be revised at Quarter Sessions. It is a great scandal that it should not be safe for honest and industrious colliers to move to and from their work without serious molestation by former fellow-operatives, unless they should be guarded by a posse of policemen. Yet this is what is now taking place at Sheffield, and

the persecution is so persistent that immediately the protection of the police ceases then the violence of the differing workmen begins, women, too, joining in the turbulence. The points in dispute are unaltered from the time when we last stated them. They are, in brief, whether Mr. HUNTSMAN or the Yorkshire Union shall have the management of Mr. HUNTSMAN'S collieries. The Union are trying to enforce their terms by blockading, if not storming, the citadel. The proprietor, on the contrary, is trying to protect the men who are at work, and he is getting hands from a distance. We shall advert to this matter again next week.

### THE COALS UNDER GLASGOW GREEN.

Some very important and valuable information was elicited at a meeting of the Town Council of Glasgow, on Friday last, concerning the extent and value of the coals underlying their public Green, or common. On the motion "That a mining engineer be employed to ascertain and report as to the possibility of removing the coal from under the Green without injury to the amenity of the surface in any way," which surface seems to bear a somewhat sacred character in the eyes of some of these Northern councillors, it came out in discussion that so reliable a mining engineer as Mr. JOHN FERGUSON had given it as his opinion that a "1,500,000 tons of coal" could be dug out of the ground covered by the Green, and by going deeper double that quantity could be exhumed. Mr. DIXON, of Govan Iron Works, a large coal and ironstone proprietor, and who is working the seams which insinuate with those belonging to the town of Glasgow, thought that, from the borings in his own grounds, there would be found seven seams of coals underlying this public park, varying from 4 ft. to 7 ft. in thickness, and they were estimated to be worth about 273,414l.

So eminently practical a municipal board as the Glasgow Town Council, with so many eminent engineers in their midst to consult, should not hesitate to enter earnestly on the realisation of a project the profits of which would greatly mitigate the pressure of local taxes on the industrious classes, and would grandly compensate for any partial disturbance of the "amenity of the surface" of this common. In fact, this old park, if we recollect right, was "once" a scene of beauty, where the loungers might crumple themselves together on its fragrant sward, and meditate amidst stately old trees on the varied scenes of nature environing them. But it is now only a bald and trodden field, almost void of

"One spot of living green,

"One little spot where leaves can grow."

And while the municipal authorities have boldly undertaken to carry out a series of city improvements which will involve the citizens in an expenditure of one or more millions sterling, might not the value of the minerals underlying the Green be made to contribute largely to the liquidation of the expense? If our memories do not deceive us, the late Mr. DIXON, of Govan and Calder, when M.P. for the city, offered to work the coal in the Green from his own shafts, at a given lordship, without interfering with the surface in any way; but his offer was declined, with thanks. Might not DIXON'S trustees be requested to offer *de novo*, and, if a reasonable equivalent was proposed, why not accept of it, and realise mineral securities which have been so long and so needlessly hoarded, for fear of ruffling the soil of a smoke-environed common? Objection was taken to the corporation becoming coalmasters and working the minerals themselves. The only alternative, then, the corporation can have is to bargain with DIXON'S trustees, at such a lordship as would be beneficial to the city and profitable to the lessees, and thus the coal would be realised to the citizens, and the amenity of the Green preserved intact.

### THE COURT OF ARBITRATION IN THE IRON TRADE.

Next Monday a Board of Arbitration and Conciliation for the Manufactured Iron Trade of the North of England will have obtained an existence. At a meeting of delegated masters and workmen, held in Darlington last Monday, which was attended by upwards of 40 representatives, a code of 22 rules, which had been previously drawn up in draft by such committee, was adopted. The second rule thus sets forth the object of the board—

"That the object of the said board shall be to arbitrate on wages or any other matters affecting their respective interests that may be referred to it from time to time by the employers or operatives, and by conciliatory means to interpose its influence to prevent disputes, and to put an end to any that may arise." The delegates are to be a master and man respectively from every works joining the board, a works, though belonging to the same firm, yet situated five miles away from another, to be regarded as a separate works. The board will meet quarterly in Darlington, Stockton, Middlesbrough, and Newcastle alternately; but questions in dispute will be submitted, not first to them, but to a standing committee, selected by the board, and consisting of four employers and four operatives, in addition to the President and Vice-Presidents of the board. This committee, too, will meet quarterly, and their decision will be made final by the board; but if they cannot agree, or if the board, in its turn, should arrive at a no more satisfactory issue, then a referee is to be chosen. The decisions will be binding only upon the works who come under the arrangement, and who will contribute to the expenses after a manner to be determined by the standing committee. The chief expenses will be an allowance of 8s. per day to each member of the committee during each day of an enquiry. The members of the board are to be elected annually in December, the men by ballot; and at the first following meeting of the board, which must be held on or before the 1st of the next month, the standing committee will be chosen, and the President and Vice-President, the one a master and the other a workman, elected. All members are eligible for re-election.

The meeting of delegates was characterised by fairness and business tact. There was only one delegate who displayed an unreasonable attitude, and we are happy to say that that attitude was not long continued. What took place is thus reported:—

"Mr. KEELING reminded the meeting that they had not met for discussing the qualifications of the men; and he was sure that no delegate was present who did not represent the feelings of all the men in the works, otherwise he would not have been sent. His instructions from Middlesbrough were that, if the masters insisted on not giving the advance—('question')—they (the men) were not prepared to work any longer till they got it. ('Question, question.') He wished to be plain and short.—The CHAIRMAN, though with considerable delicacy, being an employer, must rule that the speaker was out of order. (Hear, hear.) They were not then discussing the wages question."

In order that the question of wages may come under the consideration of the board without delay, the masters consented that the works shall next Monday remain idle till night, thereby affording the men an opportunity of electing members of the board. The board formed, it was determined that it shall meet and discuss the wages question on the following Monday (22d inst.) :—

"The second Monday in April was at first suggested, but it was forcibly represented by several delegates, including the Vice-Chairman, Mr. EVERETT, Mr. C. PRICE, Mr. W. CLARK, Mr. JNO. JONES, and Mr. T. JONES, that great dissatisfaction existed amongst the men in the several works as to the wages. All were impatient for a higher rate of pay, and it had been with great difficulty that many of the men had been restrained from sending in notices even before this. If any delay now took place they would not wait until the board got into operation, and hence the necessity of speedy action, in order that the state of trade and the rate of wages might be immediately discussed."

How many works will have a right to the question of remuneration, or, indeed, any other question discussed at the first meeting of the board, does not transpire. An effort will, however, be made to bring as many works as possible under the arrangement. With a view of facilitating this a sub-committee was formed, the members of which will meet next Wednesday, in Darlington. Meanwhile, information as to the board, and copies of the rules, are being circulated extensively.

From the cordiality of sentiment interchanged at the meeting last Monday, it is only fair to infer that no works will decline to enter the organisation, and that the results secured by the board will be uniformly gratifying. Mr. DOLMAN, one of the operatives, expressed himself as follows:—

"He thought the result of that meeting would be to induce very many works to join the board, and indeed such was the general impression. He was of opinion that the operatives would have every encouragement from the employers, and that all would work most harmoniously."

We cannot imagine anyone influenced by honesty of purpose, whether a workman or a master, wishing otherwise than that which this operative seems confidently to anticipate. So far as Mr. DOLMAN'S fellow-workmen in the North of England are concerned, they will demonstrate their sympathy in no way so much as in electing delegates who shall go to the first meeting (on the 22d), not in the spirit in which Mr. KEELING went last Monday from Middlesbrough to Dar-



ington, but unfettered and unbiassed, and determined to act independently and honourably by both sides.

We cannot conclude our remarks without adverting with pleasure to another remark of Mr. DOLMAN, because it is so thoroughly in unison with our own hopes in connection with this arbitration board. It will be remembered that when we last adverted to it, a fortnight ago, we expressed our hope, if not our belief, that the men would find it so thoroughly meet all their necessities that their Union would not seem to them any longer necessary. We find that these, also, are the views of the workman before quoted. As briefly reported, this is the summary of his remarks:—"Mr. DOLMAN thought the board would do away with their own Unions, and he thought they ought to be encouraged." No doubt they ought; and it is a most satisfactory aspect of the times that on every hand they are encouraged. We congratulate the men of the North that they should have been first to introduce the system into the iron trade. We see threatened dangers ahead, which are not, however, insuperable; and we trust that the good sense which in this work has been displayed by the people who have taken part in it hitherto will, with a little tact, overcome them. We believe it will. Sufficient is its evil. We sometimes anticipate what does not occur. The Board of Arbitration and Conciliation for the manufactured iron trade of the North of England has our very best wishes.

#### IRON TRADE, AND THE RAILWAY COMPANIES.

Our readers will remember that in our impression of Jan. 23 last we drew prominent attention to the many complaints which had reached us from ironmasters and ironfounders in South Staffordshire and East Worcestershire as to certain anomalies in connection with the railway carrying in that district. It is in every way satisfactory that the two leading companies by which the South Staffordshire coal basin is served have each added a Staffordshire ironmaster to their board of directors. Last week our Staffordshire Correspondent announced the election of Mr. JOHN HARTLEY to the directorate of the London and North-Western, and this week we have to notify the placing of Mr. WALTER ROBINSON upon that of the Great Western Company. Both these gentlemen were candidates at the recent election, though in opposite political interests, for seats in Parliament. Their fitness to sit at St. Stephen's was dwelt upon in these columns at the time. Next to the opportunity of taking part in the Government of the country as legislators, they can do their district most service in the position of directors of the railway companies of which they now form part. Their election is at once a testimony to their business worth, and expressive of the disposition of the companies named to give Staffordshire a voice in the management of the carrying business of that district, which it has not recently possessed. We hope soon to hear that the anomalies which the traders there complain of have been redressed. At the same time, it will occur to all of them that if Mr. HARTLEY and Mr. ROBINSON are to do all that is expected of them, their hands must be strengthened by outside action.

#### GOLD AND SILVER AMALGAMATION.

It is an acknowledged fact that the commercial success of companies formed for the development of gold and silver mines depends quite as much upon the system of management pursued, and mode of extraction adopted, as upon the intrinsic value of the mines themselves; for it is well known that, whilst by the application of sound practical knowledge many mines yielding ore of very moderate quality have been made to return good profits, mines possessing all the elements of success have frequently proved unremunerative, owing to the inability of those concerned to secure their proper development. In the treatment of auriferous and argentiferous ores, the quantity of float gold and silver lost in the slimes has often been enormous, exercising a very material influence upon the dividend-paying capabilities of the company; although from the circumstance of comparatively few of those entrusted with the management of mines having the courage to acknowledge the great discrepancy between the quantity of the precious metal obtained in practice and that which careful assay has proved the ore to contain, the failure has been attributed to the poorness of the mine. It is estimated that the average amount of loss sustained by the different gold and silver mining companies by all the present systems of amalgamation is not less than 50 per cent. of the assay value in gold ores, and from 30 to 40 per cent. in silver, and upon these data it is calculated that the unnecessary loss is enormous.

The United States of America are now producing 15,000,000Z. annually, and Australia furnishes nearly 6,000,000Z., so that if by the introduction of an improved system of working the present rate of loss could be reduced by only 10 per cent., the annual saving of the precious metals in these countries alone would considerably exceed 2,000,000Z. To prevent this unnecessary sacrifice, an improved washing, concentrating, and amalgamating machine, the invention of Messrs. Rickard and Paul, is at present being manufactured by Messrs. Gwynne and Co., of Essex-street, Strand, and most satisfactory practical results are anticipated. From numerous experiments which have been made with this machine, it has been proved in the most satisfactory manner that the loss has by its action been reduced from 50 to less than 20 per cent. in the case of gold ores, while its action has been equally effective with silver slimes (from the Comstock lode, Nevada, United States), which at the present moment are allowed to run to waste in enormous quantities, without any effort being made to obtain their precious contents, owing to the defects of the machinery now in use. In another case, a large sample of ore from the Chontales Mines, in Nicaragua, was tested, which before amalgamation assayed 5 ozs. 14 dwts. 8 grs. of gold per ton. After half-an-hour's treatment in the machine a sample of the tailings was taken, which on being assayed gave but 16 dwts. 8 grs. of gold per ton; the action was continued, and other samples of the tailings taken at one, two, three, and four hours, assays of which showed precisely the same proportion of gold as that taken at half-an-hour, thus proving in the most convincing manner that all the gold in a condition to be obtained by the action of mercury had been separated from its earthy matrix in half-an-hour, the 14 per cent. remaining in the pyritous tailings being recoverable by other systems of treatment. On the other hand, it is well known that where these ores are worked in batches, or charges in pans, or other forms of amalgamating machines, the time consumed varies from 3 to 18 hours.

The amalgamating and concentrating machine in question consists of a U-shaped vessel of galvanised iron, some 6 ft. or 8 ft. long, and 2 ft. wide, through which a shaft passes, carrying a series of circular copper plates, so connected as to form a continuous screw, which just dips into the bath of mercury, and keeps the mercury continually clean, and in a fit condition for catching the gold. If the contents of the tank be heated by steam, or setting the machine over a fire like a boiler, the amalgamation will be accomplished in a much shorter time; but the inventors have had excellent results with cold water—(say) 86 per cent. assay value of gold in half-an-hour's working. In putting a machine to work, after first firmly fixing the tank in brick-work, or on a stout wooden cradle, and arranging the driving-gear, it is necessary to clean the copper plates with a little sand and dilute sulphuric acid, wash in clean water each plate as soon as the surface is perfectly bright, and immediately after apply sodiumised mercury, made in the proportion of 1 part of sodium to 1000 parts of mercury. As soon as the plates are completely covered with mercury they are to be fitted on to the screw flanges, and slipped on the axle, so as to form a continuous screw, by means of a clamp attached to each plate, and cross-bars of wrought-iron running the entire length at right angles with the blades. These cross-bars assist also very materially in the agitation of the contents: 50 lbs. to 100 lbs. of sodiumised mercury is then introduced into the trough, and the screw lifted in, and fitted at about  $\frac{1}{4}$  or  $\frac{3}{16}$ ths of an inch from the bottom, so that the edge of each screw-plate shall dip about  $\frac{1}{4}$  inch in the mercury. The charge of ore and water, not too thick, is now put in (the ore previously ground to a fineness that will pass through a sieve of 60 holes to the linear inch), and the screw put in motion at the rate of 70 to 100 revolutions per minute, and reversed every two or three minutes, or oftener, if it is found the ore travels too fast from end to end. This back and forward action of the screw dashes the particles of ore with violence, first on one side and then on the other of each amalgamated screw-plate, which soon becomes coated with gold or silver amalgam,

the excess of which flows off and mixes with the fluid mercury at the bottom of the trough or tank. The addition of 1 or 2 per cent. of salt in gold, and a larger proportion in silver ores, with or without sulphate of copper, is, in addition to the application of heat, as before stated, attended generally with beneficial results, by intensifying the electro-chemical action of the machine. When the amalgamation is complete, after first drawing off the mercury or elevating the screw, the charge is to be run off by the plug-holes, one at a time, commencing at the top (the motion of the screw being reduced to allow the mercury to settle), and run into settling vats, or over riffles, blankets, or other well-known appliances for concentrating amalgam and sulphides from tailings.

The machine just completed by Messrs. Gwynne and Co. is about to be shipped to Chili, and as the high quality of the work turned out by that firm is well known, no doubt need be entertained with regard to the manner in which it will do the work allotted to it. It is probable that in any future machines made the cost of manufacture may be materially diminished, for cheaper arrangements could be introduced in many points. The mode of fastening the screw-blades to the revolving shaft, for example, could well be modified. At present a square shaft is used in the machine, and the groove turned in the collars is only of just sufficient size to take in the screw-plates. In future machines expense could be saved in both these respects—a round shaft, with a key running from end to end, could be used, and the groove could be cut wider, the screw-plates being subsequently tightened in by wooden wedges. The machine, as a whole, appears well calculated to accomplish the object in view—that of extracting the maximum quantity of gold or silver at the smallest possible cost; and as it possesses great facilities for transit through unsettled countries, can be easily put together and got to work, and when once in operation, is not likely to get out of order, it appears likely to come into extensive use wherever gold and silver mines are worked.

#### MINING, METALS, AND MINERALS—PATENT MATTERS.

BY MICHAEL HENRY,

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Mr. BRISTOWE HUNT, of Lincoln's Inn, has specified a patent relating to the mode of decomposing the sulphurets of iron contained in ores, coal, coke, and other mineral products, and in apparatus therefor (communicated to him from abroad by Edmond Granddier and Marcel Rue, both of Paris). This invention consists in the application of heat and compressed air, or of heat and compressed steam, to the decomposition of the sulphurets of iron contained in various mineral products, such as ores, coal, coke, and other substances. The apparatus employed for this purpose may be composed of a cylinder provided with moveable covers at each end, and placed horizontally on a furnace of suitable construction, by which it is heated for (say) about one-half of its length. This cylinder communicates with a pump, by which air may be forced into a pressure of from two to four atmospheres, or, when so required, it may be connected with an ordinary boiler, for the introduction of steam at the same pressure. The top of the cylinder is provided with valves of the action and charge required to maintain the pressure within, and to give issue to the products of the reaction and to the surplus air or steam. The materials to be treated may be introduced through man-holes, but should preferably be carried by trucks into the cylinder, which is provided for this purpose with a line of rails. These trucks are formed of bars of iron, set horizontally at equal distances from each other, and connected at their extremities by perforated iron discs, for the admission of the air or steam, the whole arrangement forming a circular vehicle, corresponding as closely as possible in form and dimensions with the interior of the cylinder.

Mr. JOHN HEATON, of Langley Mills, Derby, has obtained a patent for an invention relating to the treatment of cast-iron. These improvements relate to the purification of pig or cast iron, and consist in subjecting pig or cast iron contained in a furnace or converter, or in any other arrangement, either with or without the conjoint employment of a blast, to the action of nitrate of soda, or nitrate of potash, or other mixtures of the same, in such quantity as that the impurities contained in the pig or cast iron shall be partially or wholly removed with the abstraction of the smallest proportion of carbon practicable, his object being to effect the purification of the pig or cast iron, and not to convert it into steel or malleable iron.

Among the late applications for patents are the following:—F. N. GIBSON, of West Strand, and H. ALMAN, of Amptill-square, construction of tubes of metal and other materials.—J. SLOPER, of Walbrook, machines or apparatus for perforating, punching, cutting, or stamping cardboard, metal, and other materials.—E. LYONS, of Birmingham, lamps for burning volatile oils or spirits.—S. MARSDEN, of Manchester, machinery for making bolts and rivets.

#### IMPROVED MINERS' SAFETY-LAMPS.

At the Royal Society's soirée, held at Burlington House, on Saturday evening, two improved miners' safety-lamps, the invention of Mr. T. S. HORN, of Newcastle-on-Tyne, were exhibited, and attracted considerable attention. One of the lamps does not widely differ in appearance from the ordinary Stephenson lamp, except that it has a metal dome placed above the wick-tube; the other is a similar lamp, so far as the lower portion is concerned, but the upper part is a simple glass cylinder, with a double metallic cap, furnished with fine perforations to permit the escape of the products of combustion. To adapt the lamp for practical use some slight modifications are required, as a very small motion leads to the loss of the light, but the inventor states that this arises from the dome having been hurriedly constructed, and that when the proportions are accurate, as they would be when the lamp is produced in the ordinary course of manufacture, the lamp will keep its light as well as an ordinary Geordie, and in that case it will, undoubtedly, possess greater advantages than any lamp yet introduced.

The base of the new lamp forms the receptacle for the oil, having a tube in the centre for the insertion of the wick or lamp cotton, and for feeding or supplying the lamp with oil. Above this receptacle, and attached to it there is an air-chamber perforated round the circumference, or surrounded with wire-gauze, for the admission of air horizontally at a point below the point of combustion. The top plate of this air-chamber is also perforated with very fine holes for the admission of the air to a combustion chamber which surrounds the wick, and is formed of metal of a dome or other shape, having an aperture at the summit through which the wick can pass. This metal dome is fitted by a bayonet joint-screw or other means into a metal ring or flange, which flange has formed on its outer or upper surface an annular groove for the reception of a glass chimney which is cemented therein. By the use of the dome the air for supporting combustion passing through the air-chamber from below impinges on the flame at the point of combustion, rendering such combustion more complete, and, therefore, affording increased light. This dome also acts as an extinguisher should the lamp be overturned by accident or otherwise, as the light in that case will immediately die out. The products of combustion pass up the glass chimney through a contracted aperture in a metal cone fitted thereon, and become diffused by escaping through small perforations in the copper caps fitting on to the glass chimney and enclosing the cone. This cap, and also the cone, may be readily removed, when necessary, for the purpose of cleaning the glass chimney. A guard of perforated metal or other suitable material may, if desired, surround the apertures in the circumference of the air-chamber, and serve as a protection against any gust, "blow," or outburst of gas or air interfering with the steadiness of the light. As a protection to the glass chimney a cage of wire-gauze is sometimes placed on the exterior, so as to surround the same.

With a view of locking the lamp there is drilled in the top rim and bottom flange an aperture, which extends also into the solid part of the base, the drilling being, of course, in a line, so as it may admit of a steel rod passing through from top to bottom. On the top rim there is rivetted a metal tongue, which is bored to admit of a screw bolt, and on the top cover there is rivetted another and a larger piece of metal, having a slit for the passage of the former piece, this larger piece being also bored partially through for the passage of the said screw bolt, which is oval at the end, for the reception of the key. This bolt should be so fixed as not to be capable of entire withdrawal. On bringing the cover down the metal tongue enters the lock on the cover, and the bolt is then screwed by a key through both pieces, thereby locking the lamp. The cover by covering the head of the steel rod keeps it in place, and the lower end of the steel rod, by passing through the lower flange into the solid piece below, prevents the base from being unscrewed.

#### UNDERGROUND RAILWAYS AND ATMOSPHERIC PROPULSION.

A party of English miners is now tunnelling Broadway, New York, preparatory to the construction of a pneumatic railroad. In the operation the earth is not dug out, but pressed away by a shield, which latter is exactly the diameter of the tunnel. The shield is forced ahead by means of a number of screws on the rear of the shield, worked by levers, the displaced earth exuding through the trap-doors

in the shield. The progress made is slow, about 10 inches per day completed. Bricklayers follow in the rear of the shield, and line the tunnel with hard brick, which prevents the earth from caving in. The principle by which the cars will be propelled is now pretty generally known. An ordinary railroad track is laid at the bottom of the tube, over which the cars are propelled by a current of air, and made to return by the creation of a vacuum. A flange closely fitting to the sides of the tunnel is fitted to one end of each car, upon the surface of which the air will be supplied by immense fan-wheels worked by steam at each end of the route.

#### REPORT FROM NORTHUMBERLAND AND DURHAM.

MARCH 11.—The yearly bindings or hirings were carried out at most of the Durham collieries on Saturday, and a reduction was generally made equal to the amount stated in this letter last week—10 per cent. It was certainly the dulllest hiring experienced for a great number of years. There was, as might be expected from the bad state of the trade, no objection made to the reduction, but numbers of men refrained from binding, hoping to improve themselves by removing; but this, in most cases, is a vain hope at present. The owners generally, too, have hired less men than usual; in the present state of the trade they are naturally cautious on this score. The Coal and Coke Trades in Durham continue very dull, and at some collieries but little work has been done during the past three weeks. The weather continues very stormy and windy, with heavy falls of snow. The heaviest fall experienced this winter occurred yesterday, with a north-east wind. Bad as the state of the coal trade is in Durham, there are some exceptions—some who, having secured contracts for gas and other kinds of coal, manage to keep on tolerably steady; but in Northumberland the steam coal trade continues very bad, with hardly a redeeming feature.

As elsewhere stated, a deputation of coalowners and others interested in the Steam Coal Trade waited upon the Lords of the Admiralty in order to urge on them the claims of Northumberland steam coal for Government patronage. It is quite possible that some good may be produced in this way; indeed, it is thought that the Hartley steam coal has hardly received fair play from the Government. But whatever success may attend this movement, it certainly cannot be expected to redeem the ills that this unfortunate trade endures; the disease is too deep seated for removal by half measures. The primary cause of the disease is supposed by some to be simply combination, a cause which has, at different periods, ruined not only the coal trade, but other staple trades in various districts of England. It is well known that a bad understanding has existed for some years between the leading owners and the steam coal miners of Northumberland, and this led, some time ago, to a firm combination on each side. This sinister movement, we believe, commenced with the men when the "Miners' Mutual Confident Association" was formed, and the action of this combination was so severely felt in raising wages to a high level, and as it appeared that no limit was to be observed, the owners very naturally followed the same course, and formed a strong alliance. It can hardly be matter for surprise that the owners, having once got into a combination, should not only keep the men back at the point they had arrived, but should also attempt to regulate the price at which the coals should be sold. This was at once a convenient and profitable arrangement, so far as it went, but, unfortunately, not at all applicable to commercial matters at the present day, and hence the dire disasters which have befallen the trade. Had this arrangement been fully carried out, which it has not been to the fullest extent, matters would, so far as the coal trade of Northumberland is concerned, have been precisely in the same state as they were before the great strike in 1832 throughout the whole district, when the vendors and all other regulations for fixing wages and selling prices were in full force. What is wanted now is free trade in labour and in the sale of produce; and without this, whatever benefit may be derived from Government patronage (and it would, no doubt, be considerable), the steam coal trade of Northumberland will hardly be restored. It must be remembered that close competition is to be met, not only from the Welsh coal, but also from German coal abroad. But with the splendid coal field of Northumberland, the first mining engineers of the day, the very best means and appliances for raising coal, and the finest body of miners in the world, there is no doubt that this coal can successfully compete with that produced in any other field, both as to quality and price, if these absurd chains were only removed. It is evident that a losing game is now being played on both sides—the men are half starved, and the owners will, in time, be ruined if the present course is persisted in. A great reduction in the price per ton for getting coal, and the selling price at the staith, should be made at once. No doubt the men will object to this course, but the question might, perhaps, be settled by means of arbitration, as proposed to be carried out in connection with the iron trade.

Another meeting has been held respecting the wages to be paid in the iron manufacturing trade, the men being very anxious for an advance. The masters generally assert that the little advance already received will not warrant a rise in the price of wages as yet. It was determined at the meeting of ironmasters and delegates, held at Darlington, on Monday, that a "Board of Arbitration and Conciliation for the manufactured iron trade of the North of England" be now formed. A code of rules was drawn up and adopted at the meeting. The board will consist of one employer and one operative from each works joining the board. The representatives are to continue in office one year. A standing committee will be chosen from the board, consisting of four masters and four operatives, in addition to the President and Vice-President. All questions shall in the first instance be submitted to this standing committee, and should they be unable to settle the question it shall be referred to the board. The board will hold meetings quarterly, at Darlington, Stockton, Middlesborough, and Newcastle. A full report of the proceedings appears in the Supplement to this week's Journal.

#### DEPUTATION OF COLLIERY OWNERS TO GOVERNMENT.

On Tuesday, a deputation of Members of Parliament and coalowners from the North of England had an interview with the Right Hon. Hugh Childers, First Lord of the Admiralty, at Whitehall, to ask that Northumberland steam coal may be put upon the Government list again. There were present Earl Percy, the Earl of Durham, Earl Vane, Lord Ernest Vane Tempest, Lord Hastings (of Seaton Delaval), Mr. Liddell, M.P., Sir George Grey, M.P., Mr. Dodds, M.P., Mr. Candlish, M.P., Mr. Laycock, Sir William Hutt, M.P., Mr. Cowen, M.P., Mr. Bolckow, M.P., Mr. Henderson, M.P., Sir Hedworth Williamson, M.P., Mr. W. B. Beaumont, M.P., Mr. Barrington, M.P., Mr. John Straker, Mr. Bunning, Mr. George Elliot, M.P., and Mr. Stephenson, M.P.

Mr. Liddell, in introducing the deputation, said the North of England Coal Trade felt deeply aggrieved at their exclusion, and had come there to state their case on the broad principles of justice. He introduced Mr. Henderson, the Chairman of the Steam-Coal Association, and Mr. Bunning, secretary of the Coal Trade of the North of England.—Mr. Henderson stated some of the reasons which had induced them to form this deputation. The experiments tried with Hartley steam-coal under Government officers proved that it was smokeless, and nearly as valuable as the Welsh coal. The most singular result of these experiments was the power of utilisation possessed by the northern coal when mixed with the dust of the Welsh coal, which had hitherto been considered useless, and which by admixture with Northumbrian became nearly as valuable as ordinary coal. The feeling in the North of England was exceedingly strong on the subject of exclusion, as it was known that the Prussian Government was prepared to enter into a contract at Newcastle for several thousand tons of coal, but had retracted on learning that the English Government did not use it. In the Northern coal field they raise between 3,000,000 and 4,000,000 tons per annum, employing about 10,000 men to raise that quantity.—Mr. Childers said that in 1864 the Admiralty came to the decision, after experiments, to try certain mixtures of North Country and Welsh smokeless coal; but in March, 1867, after reports from some officers on foreign stations, the late Board of Admiralty reversed that decision, and arranged that for the future the supply to be sent to foreign stations should consist of smokeless coal only. This decision, he understood the deputation to say, had practically excluded the North Country coal. They now asked him to go back to the decision of 1864, especially with regard to North Country coal, but generally with respect to good



steam coal, which does not come to the Admiralty at present. This was practically what the deputation asked the Admiralty to do. They told him it was not only important to them and to their interests that the Admiralty contracts should be extended again to the North Country in the shape of the quantity of coal so purchased, but they added that they were prejudiced by the exclusion of their coal from the Navy, as foreign Governments followed the same rule as the British Admiralty. He should like to have a little information about that—could they tell him whether before 1864 foreign Governments consumed much of this coal?—Mr. Henderson said that the French Government consumed large quantities; they were the first to discover the advantages of the mixture.—Mr. Childers: In 1864, when the Admiralty used that mixture for our Navy, did that produce any beneficial effect upon you, so far as foreign Governments are concerned?—Mr. Henderson said that theirs was a much enhanced trade. Generally the French Government bought Hartley coal for their navy.—Mr. Childers remarked that it was very desirable that the smoke from Hartley coals should be consumed, and Earl Durham stated that this can be done by very simple apparatus, as he had found by experiment.—Mr. Childers said he would undertake that the subject shall be carefully considered.

#### REPORT FROM NORTH AND SOUTH STAFFORDSHIRE.

MARCH 11.—There is no improvement in the demand for iron, and complaints are very general of the want of orders. The demand for railway iron is the best element in the trade, but it does not largely affect South Staffordshire. The Hardware Trades also continue quiet as a rule, and the district, though not in a state of actual depression, is certainly dull in a commercial point of view.

The Conference of Ironmasters and Ironworkers in the North of England is an event of great significance, and one may fairly hope of good promise for the future. Dismissing the idea which some sanguine people entertain, to whom "one swallow makes a summer," that we have thus got to a millennium of labour and employment, there are in the meeting, and in the agreement it led to, some substantial facts well worthy of note. Labour and employment are to become organised, and their organisation is to receive distinct mutual recognition. Representatives of masters and men are to be formally chosen, and are to meet one another, and a body representing the whole is to take in hand the consideration of causes of difference, with a view to conciliate the opposing parties, without the necessity of an appeal to an admitted authority. In this seems to consist the leading feature of the movement. Free intercourse and interchange of opinion will do much to appease differences in their inception, before they have become embittered and strengthened by open proclamation, and an actual contest, in which both sides suffer. An attempt to come to an understanding is a great step; and in this case it appears to be the main thing, for on examination the organisation is not very well capable of bearing the strain of an actual clash of opinion. Suppose the standing committee to fail in their attempts at conciliation, and the appeal to be made to the whole body; would it not be likely that masters and men would take opposite views, and that the necessity would arise for agreeing on a referee? But how is a referee to be chosen to decide a long-debated point by persons of equal number ranged on opposite sides? Would both not vote—as the electors of the Electoral College in America, which appoints the President, does—for a man who who would decide in a certain way? There seem many reasons for the permanent appointment of an umpire, or an element in the body jointly elected. Again, how is the award, even when attained, to be enforced? A rule declares it binding on employers and operatives, but surely no man is bound to stay at any particular works longer than the period of his stated notice? Nor is any master bound to keep all his men employed. These are probably *bona fide* objections in the last resort, but there is good reason to hope the question will not often come to the last resort, but that in the preliminary stages an adjustment of disputes will often, and indeed usually, be arrived at. These remarks are written in no disparaging mood. The step that has been taken is a good one, likely to lead to much benefit, and prevent much injury to employers and workmen, only let it be remembered it is not a specific, and will be of advantage exactly in proportion as it is used with good sense, good temper, a candid spirit, and a disposition to hear and frankly consider both sides of the questions submitted for judgment.

There was a serious boiler explosion at West Bromwich, on Tuesday night, at the works of Messrs. Grice and Co., gun implement makers. Several persons were seriously injured, but as all are expected to recover there will be no enquiry. Reference was made some years ago to the Tipton Drainage Association, which is a union of a number of proprietors of mines to pump the water from a great submarine pond, so as to render a large area workable. Of course, many who pay nothing share the benefit. The term of the agreement expires on the 20th inst., and it is now said there is some doubt whether it will be renewed, which will be a sad loss of employment and mineral production. There was a terrible explosion and fire at the chemical works of Messrs. Lewis, Demuth, and Co., Oldbury, yesterday. The firm extract from coal tar the aniline dyes, which have made such a change in the hues of human dress. An iron retort, in which the spirit was being extracted, burst with a loud report, the flames spread over the works, a heap of pitch blazed, melted, and running into the canal converted it into a stream of fire, and the whole place was burnt up in a vast, frightful conflagration. Two horrible remnants of human bodies were found, a third swam across the canal only to delay his death, and a fourth is expected to succumb.

Mr. Robert Heath, a very extensive coal and ironmaster in North Staffordshire, has been fined in the nominal sum of 20s. and costs for neglecting to have special rules duly certified for each of his collieries. The idea was that one set of certified rules would do for all.

#### REPORT FROM DERBYSHIRE AND YORKSHIRE.

MARCH 11.—The various branches of the Iron Trade remain without much alteration or any material improvement. In some descriptions of light castings there is a little more doing, but in rails and plates there appears to be no change. Although this state of things has now lasted for a considerable time in all parts of the county of Derby, yet there appears to be no marked falling off in the production of pig-iron, the furnaces continuing in blast. At Codnor Park business is still rather quiet, the men working about the same number of turns as they have done for a considerable time past. At Langley Mill, where the process of Mr. Heaton, for the conversion of pig-iron into steel is being carried out, there is considerable activity, there being apparently plenty of orders in hand for the plain material, and also for rails, drills, and other tools, for which, after being thoroughly tested, there is now a very good demand. In coal there is not much alteration, the quantity going to London being by no means large for the season. The Midland Railway, however, is taking advantage of the position it occupies in being near to London, and is carrying a considerably larger tonnage than ever it did before. To Birmingham, Worcester, and the West of England, the trade is rather quiet in household qualities; but gas coal is in fair request, there being a good many contracts for the districts named.

The Iron and Steel Trades of Sheffield are now more active than they have been almost since the commencement of the year, and the orders in hand are said to be sufficient to keep the men fully employed in several branches for some considerable time to come. Railway material of nearly every description is in brisk demand. The great feature of the week has been the attempt made to blow up a non-Unionist in Sheffield at an early hour on last Saturday. It was carried out in the same manner as such things were formerly done, as explained before the Trades Union Commission, which sat at Sheffield last year. The intended victim was a saw-handle maker, named Joseph Martin, and who, with his family, had a very narrow escape. The attempt shows that the Unionists—or some of them at least—have not given up those diabolical practices, for denouncing which Mr. Roebuck lost his seat for Sheffield, the working men not being able to tolerate a man who had spoken so strongly against such murderous acts. The supposed guilty party, who is a cousin of the man whose house and family were to be blown up, has been apprehended, and after one examination, remanded.

In South Yorkshire most of the iron establishments are now doing a good business in manufactured iron generally. At Eiscar there are some large orders in hand for rails, and there is every appearance that the firm will be kept busy with them for some time, seeing that the quality of the iron is of a highly superior character. Recently it was tested in the presence of a number of gentlemen connected with our railways, and who were somewhat surprised at the strain the rails were able to bear, and the great weight which, suddenly dropped upon them, had not the least effect in injuring

them. Thus the rails have fully borne out, by the strongest of tests, the reputation which the Messrs. Dawes have long enjoyed for the production of them. The demand for steel rails, and axles and tyres, has much improved of late, and the principal works are once more fully going. The Coal Trade is still very dull, and there does not appear much prospect of improvement, so far as regards household qualities. The quantity being forwarded to London is not by any means so large as it ought to be, the existing rate acting as an effectual bar to any large proportion of the coal raised in the Barnsley district being forwarded there. In steam coal there is a little more being done with Hull, for exportation to British America, but for Grimsby there is not more (if so much) than an average trade, and no improvement of any consequence is looked forward to before the Baltic is opened for vessels. For the Lincolnshire and eastern ports several cargoes have been shipped at Goolse, from which, for several weeks past, the exports have been considerable. Coke continues in good request, a good deal being forwarded into Lincolnshire and to the iron works at Wellingborough.

STRIKES IN THE YORKSHIRE COAL DISTRICTS.—South Yorkshire is once more the battle-field on which the old struggle between capital and labour is to be fought, and the struggle this time promises to be a severe and protracted one. Since the memorable contest in 1864 nothing like the present one has taken place, although from time to time there has been slight skirmishing, without much advantage to either side. Now the issues are clearly laid down and thoroughly understood, whilst the cost on both sides has been apparently fully taken into account. The first movement took place some five or six weeks ago, when a dispute at the Tinsley Park and Manor Collieries, belonging to Mr. Huntsman, and situated close to Sheffield, led to the men leaving work. It may be said that the relations between Mr. Huntsman and his workmen were far from harmonious for a long time, so much so that it was agreed on each side that the men should have the power to discharge themselves at a moment's notice, and that the proprietor should have a like privilege with regard to all persons working in his collieries. At last, the old question as to insufficiency of payment was raised, and, certain demands not being conceded, 600 of the men struck work. The South Yorkshire Miners' Association, the strongest body connected with working miners in the kingdom, and managed by men of considerable ability and astuteness, at once took up the cause of the men. They offered, in the first instance, to refer the matter to arbitration, which Mr. Huntsman, considering that he was best able to judge of his own business and duties, refused. The strike was then complete, so that at present all the men are out, and are in receipt of upwards of 2500. per week from the Association. The latter, which has a fund in hand of 10,000., raises the money for those on strike by a weekly levy throughout the district, in which there are about 8000 members, and so keeps its capital intact for any serious emergency that may arise. To add to the demands on the funds of the Association, a second strike took place last week, at Denaby Main, the deepest colliery in Yorkshire, and which was only opened out last year. The proprietor is a very wealthy one, having pits in the neighbourhood of Normanton, and the managing partner (Mr. Pope) engaged all the workmen conditionally that they should not belong to any association whatever. This agreement was kept up to a few weeks since, when some trifling dispute relative to the size of the corves led some of the men to court the assistance of the Miners' Association, and ultimately to become members of it. This being a breach of the agreement entered into at the time of engaging, all the men had notice to leave, with a view to the employing of those who were desirous of working independent of the Miners' Society. The result was that nearly the whole of the men left, to the number, we believe, of about 350, most of whom are now receiving sustenance from the Union Fund, the first payment, on Thursday, absorbing about 1500. It will thus be seen that the Association has now to pay weekly to men on strike upwards of 4000.

As if the Association had not sufficient on its hands, the executive is threatened with a still larger amount of responsibility, and from a quarter where it was least anticipated. At the Chapelton and Thorncliffe Collieries, belonging to Messrs. Newton, Chambers, and Co., at which nearly 1000 persons are employed, the usual 28 days' notice has been given to all of them to leave. The reason for such a step has not been made known, and it is understood will only be announced on the expiration of the notices. Still, there is a strong feeling, and one which is shared in by the great body of the men interested, that the notices are merely preliminary to a proposal for a general reduction of wages, which colliery proprietors consider is more than warranted by the present depressed state of the trade, and the large reductions which have been made during the past four or five months in the price of coal. Still there is not the slightest doubt but what any attempt to lower present prices will meet with the greatest opposition, and we have it on good authority that the men will prefer to cease working rather than submit to it. Such is the present condition of affairs in South Yorkshire, and it is one that cannot but be looked upon with regret, more especially as the coal trade has not been worse for years than at present. So general, indeed, has the depression been, that for the last two or three months colliery proprietors have been seriously thinking of proposing to their men a reduction until trade improves, but very few have appeared willing to take the initiative in a movement which would in all probability lead to serious results.

#### REPORT FROM MONMOUTH AND SOUTH WALES.

MARCH 11.—The Iron Trade is quieter than it has been for several weeks past, the orders now being given out not being so large or numerous as expected a few weeks ago. For this slight reaction, however, there is no cause for surprise or reason to expect that it will be more than temporary, as at the approach of the close of a quarter engagements generally become somewhat restricted. The present quietude has not in any way abated the confidence which sprung up at the commencement of the year, as to the trade ultimately attaining the prosperous position it held previous to the depression which set in rather more than two years ago, and this belief is strengthened by the fact that there are no heavy stocks on hand, and that the Russian Government has borrowed in Europe during the past eighteen months no less than 25,000,000. sterling, to be expended on Russian railways. This money that Government has now in hand, and the rails required can be paid for on delivery. Reference was made in last week's report to a contract having been offered to the shipowners at the local ports for 30,000 tons of rail freights, and it has just transpired that it has been entered into; therefore, there is little doubt that the contract for 30,000 tons of rails for Russian railways lately in the market has been secured by makers in this district. Just now the ironmasters are shipping considerable quantities of rails, principally to the United States and South America, and the returning activity witnessed at the places of shipment presents a favourable contrast to the depression which has so long prevailed. The rail mills at the leading establishments continue fairly employed, and on some of the makers' books there are engagements sufficient to keep the hands fully employed for the next four months, if no one others are entered into; but it is generally believed that the trade will further improve in the early part of next quarter. Advices from the Continent indicate that a larger amount of business will shortly be transacted, and this will, in all probability, be realised as the spring advances. From the United States advices continue of the same satisfactory character as they have been for several weeks past, and there is every probability of requirements remaining unchanged and unabated for some time to come. Last month 13,424 tons were sent to New York alone, being a much larger quantity than has been known for many months past, and the clearances to other parts of the United States were equally as favourable. There are rather more enquiries for plates, consequent upon an improvement having set in in the iron shipbuilding trade. The pig-iron trade is steady, with only a moderate amount of business doing. Tin-plate makers have sufficient orders to keep their mills fairly employed, and list prices are firmly adhered to.

Large quantities of Steam Coal are being shipped at the local ports for the mail packet stations, some of the Mediterranean ports, and the French markets, and should the present fine weather continue the trade will speedily attain a more satisfactory position than for several weeks past. Considerable clearances have lately been made to ports in the South of France, in consequence of an increase being expected in the demand, and the same may be said respecting shipments to the Levant. The House Coal Trade continues inactive, and the returns just issued corroborate the reports which have appeared in the *Mining Journal* as to the position of this branch of the trade. The advent of colder weather will probably add to the consumption.

In a previous report reference was made to a dispute between the trustees of the Pontypool Park Estate and the Ebbw Vale Company, who had stopped their works at Pontypool, and contemplated blowing out the only furnace they have in blast at the Race Works, which are in close proximity to the company's works at Pontypool. If the trustees persisted in their demands. In consequence of the representations made to the trustees as to the distress occasioned in the district by the stoppage of the iron and coal works, they have sent 500. to be distributed among the poor of the town of Pontypool, but nothing has yet transpired as to whether they will continue to persist in their demands on the Ebbw Vale Company or not. Evidently the trustees are standing in their own light, unless a timely concession is made to the reasonable requirements of the Ebbw Vale Company.

It is rumoured, and as such we give it, that new tin works are about to be erected at Pontypool-road, near the Great Western Railway station. The site is well adapted for the erection of such works, as a good supply of water can be obtained all the year round.

The Newport Harbour Commissioners have now a Bill before the House of Commons, intituled "A Bill for Authorising the Construction of a Dry Dock and other works at Newport, and conferring other powers upon the Newport Harbour Commissioners." Three petitions have been presented against the Bill, the petitioners being Mr. Samuel Homfray, on behalf of the Tredegar Wharf Company, the Newport Dock Company, and General Wood. An arrangement will probably be come to with the Newport Dock Company, and the other petitions will be opposed, as they are considered frivolous and vexatious.

The establishment of a Mining School for Wales is attracting some attention in the Principality, and it is to be hoped that the leading ironmasters and colliery proprietors will lend their powerful aid in carrying out the object

in view. The Government Inspectors have on several occasions stated that viewers and overseers in numerous instances have shown a most lamentable ignorance in reference to elementary knowledge as to the scientific management of collieries, and it is to be hoped the great mineral owners will subscribe liberally towards the proposed school, as they will, to some extent, participate in the benefits likely to result from the establishment of such an institution. The arrivals at Swansea include—the *Cesar* et Jean, from Santander, with 194 tons of iron ore, to order; the *Guisepe* Massone, from Almeria, with 194 tons of Separato grass, and 155 tons of argentiferous ore, for A. M. Bell and Co.; the *Corredora*, from Carrizal, with 600 tons of copper regulus, for H. Bath and Son; the *Ford Mill*, from Stockholm, with 4198 pieces of deals and battens for James Strick; the *Faithful*, from Dieppe, with 100 tons of loam, for Richardson and Walters.

#### REPORT FROM SCOTLAND.

MARCH 10.—Since the beginning of the month there has been a varying fall in the price of Scotch pig-iron; and there is no immediate appearance of holders recovering what has been lost, unless current rates induce new buyers to become purchasers, and the consequent demand enable brokers to hold for higher quotations. Of this there is no great hope, as Middlesbrough pigs are coming forward freely, and are now rapidly approaching the large imports of last year. From the Scotch ports the shipments (foreign and coastwise) for the week just ended only reached 8170 tons, against 10,790 tons in the corresponding week of last year; but still the total shipments to date exceed those in the same period of 1868. The recent discovery of a hematite at Garlton Hills, lying in the centre of the shire of Haddington, may prove of great advantage to Scotland, as it consists from 62.50 to 62.75 parts of metallic iron, which shows it to be very valuable. Mr. J. W. Young, at the meeting of the Glasgow Geological Society, stated that this hematite consisted principally of grey and reddish claystone. Attention had been first directed to the hematite deposit by the farmer on that part of the property where the mines are situated, who had frequently observed pieces turned up with the plough. It crops out almost at the surface, and from an examination of part of the workings to which Mr. Young had access he was of opinion that it was a very valuable deposit. In two specimens which he had analysed the amount was as follows:—No. 1, peroxide of iron, 89.64, equal to 62.75 metallic iron; No. 2, peroxide of iron, 89.28, equal to 62.50 metallic iron. Hematite, when pure, consists solely of peroxide of iron. We may notice this interesting discovery more at length as the working proceeds and as the mines are opened out. In to-day's pig market a considerable business was done at 53s. 1½d. cash, and 53s. 1½d. one month, closing buyers; sellers, 1½d. per ton higher. No. 1, g.m.b., 54s.; No. 3, 50s. 9d.; Gartsherrie, 60s. 9d.; Coltness, 60s.; Glengarnock, 55s.; Langloan, 54s. 6d. Makers are said to be interested in "bearing" the market. Bar-iron is in extra demand for shipment, and everybody who can make manufactured iron can have numerous orders for present delivery, and the tendency of the market is to better prices. Plates (ship) are being quoted by some makers at an advance; and rather more money is being paid for some kinds of angle-iron. Founders continue well employed, and pipe-makers (especially the larger firms) are working extra shifts. There is no change in quotations.

Shipping qualities of coals are more enquired for, with prices in exporters' favour. Good qualities from 5s. 6d. to best at 7s. to 7s. 6d., f.o.b. at the Broomielaw or Port Dundas, 10d. to 1s. more at Greenock.

Alexander McDonald, the Miners' secretary, is reported to be suffering from paralysis, which has caused suspension of speech, but the virulence of the disease, his friends report, has subsided, and it is expected a little quiet will restore him. The Miners' Conference last week here was a failure, and was adjourned till the 29th inst.

In the Second Division of the Court of Session, on the 4th inst., the appeal of the Procurator-Fiscal at Hamilton against Messrs. Merry and Cunningham, and their manager at the Haughhead Colliery, for not having provided adequate ventilation at Haughhead Pit, as was alleged by him, was heard and dismissed. When in the Sheriff's Court the Sheriff-Substitute (Veitch), after a proof, held the complaint proved, and adjudged the owners to pay a penalty of 100., and the manager a further penalty of 100., and granted execution by arrestment and poinding. The respondents appealed to the Sheriff, who, having considered the evidence and other proceedings, dismissed the complaint, and the Second Division concurred in this finding.

During February 11 vessels, of 12,416 tons, were launched on the Clyde, of which nine were iron, one composite, and one of wood.

DISCOVERY OF PLATINUM IN SCOTLAND.—An explorer announces that during his investigation into the auriferous nature of Scotch quartz he has discovered small quantities of platinum associated with the gold there existing. The platinum exists in the form of small scales, resembling silver, but they are not magnetic like much of the crude platinum found in South America. In the process which he employs the gold is volatilised by chlorine at a bright red heat, but the platinum is left unacted on by the chlorine, and, perhaps, this may account for its non-magnetic quality, as any iron united to it would be carried away by the chlorine. Platinum is very rarely found in this country, but few authentic records existing of its having been met with. Some ten years since Mr. W. Mallet, of Dublin, found crude platinum in minute grains and scales, associated with gold, wood-tin, &c., in the auriferous sands of some of the Wicklow rivers; and about the same time it was also said to have been met with on a farm near the mouth of the Urr, in Bute, Kirkcubright.

#### TELEGRAPHIC COMMUNICATION WITH AUSTRALIA.

The continually increasing prosperity and commercial development of our Australian colonies causes especial interest to be felt in every undertaking having for its object the bringing of those colonies into more speedy communication with the Mother Country, and the DIRECT ENGLISH, INDIAN, AND AUSTRALIAN SUBMARINE TELEGRAPH COMPANY, being intended to secure the same facilities for Australia with regard to telegraphic communication with England as is already enjoyed by British North America, the enterprise is justly considered to be well entitled to support. The object of the company in question, which has been incorporated with a capital of 2,500,000., in shares of 50. each, is to lay and work submarine telegraphs between England, Gibraltar, Malta, Egypt, India, China, and Australia, which shall be in English hands from end to end. The advantage of a purely English line can scarcely be over-estimated, since it is really almost the only means of securing accuracy and dispatch. A comparison of the working of the Transatlantic cable with any other telegraphic line of the same length can only lead to conclusions decidedly in favour of the cable, and it is difficult to determine which has the more contributed to this result, the fact of its being free from the dangers inseparable from land lines, or that of its being in the hands of Englishmen—that is to say, of those speaking the English language at both ends of the line. In the case of our present means of telegraphic communication with our Indian empire, the circumstance of the message being entrusted to the people of, perhaps, half-a-dozen different nations has not contributed to retain the message in its original form, or rather it may be said has caused such an amount of originality as to leave nothing by which the sender could recognise it as his own.

For the present enterprise an improved form of cable has been selected, the cost of which, it is stated, will be little more than half that of the deep sea-cable ordinarily in use; it is, at the same time, safer both for laying and picking up, and quite equal for endurance. Care has been taken before bringing the enterprise before the public to subject the cable selected to every kind and degree of practical and scientific test, and both Sir William Thomson and Mr. Varley, by whom the experiments have been conducted, state that nothing could be more satisfactory than the results have proved to be. Sir Wm. Thomson, after referring to the severe tests to which he had subjected the cable, says—

"I have perfect confidence in recommending you to adopt it. I am convinced that it will give you a surer prospect of complete success in your undertaking than you could have with any other form of cable hitherto devised or made. In the varied experiments I have made I have exaggerated every variety of rough usage and heavy strain to which it could be exposed in laying it, or even in hauling it up on a grapple from a depth of three miles, and I find the mechanical qualities to be most satisfactory, much superior, indeed, to anything I could have anticipated. The protection afforded to the electric wire was quite perfect throughout all the rough usage, both in respect of insulation and continuity."

Since making this report the directors have received another communication, in which he writes in reply to certain further enquiries that "greater security—that is to say, less chance of loss or accident



in the laying is to be regarded as so decidedly in favour of the new form that I should prefer it on this account alone to any of the old forms of iron-clad cables; whilst, with regard to the working of the cable after it is laid, the electricians are confident that the cable which they have selected will transmit messages at a minimum speed of 10 words a minute, and when the line is completed, messages between England and India can be delivered within an hour. On the completion of the whole line, messages can be sent through to Australia in very little more time than to India, and all quite independent of any complications that may arise on the continent of Europe; while, by the existing lines of telegraph, the time taken for the transmission of a message from India has varied from 1 to 15 days.

Direct communication with India is that which will be first secured, and it is anticipated that even this portion of the line, calculating 150 messages each way daily, would yield adequate returns. The Government has furnished the company with the latest surveys and soundings of the proposed route, which prove that the beds on which these cables will lie are unusually good. The first issue of shares (150,000) is for the lines from Suez to Bombay and the Malta lines, and the subscribers for these shares are to have the option of taking their *pro rata* proportion of future issues. The list of directors and other officers of the company includes the names of many well known in the commercial and scientific world; and from the prospectus, which appears in another column, it will be seen that the enterprise has much to recommend it; and it cannot be doubted that when the line is completed to Australia, the facilities for carrying on our commercial intercourse with that country will be greatly increased, and, probably, none will derive greater advantage than those interested in the development of Australian mining industry, as communication between those entrusted with the management of the mines in the colony and those supplying the capital at home, can then be carried on almost as freely as with the mines of Cornwall and Devon.

#### INTERESTING STATISTICS OF AMERICAN RAILROAD IRON.

At the American Iron and Steel Association annual meeting, held at Philadelphia on Feb. 18, Dr. Lamborn (for Mr. McAllister) read the report, an exceedingly able document, from which we extract the following particulars:—

The product of the rolling mills in 1868 is estimated at 1,105,000 tons, an increase of 63,000 tons over the production of the previous year. This increase was chiefly due to the larger production of rails, amounting last year to 506,714 tons, against 462,108 tons in 1867. The following statement, compiled with great care, shows some facts in relation to the extent of our railway system:—

Total number of miles of railroad (including second track, sidings, &c.)	52,550
Total increase for ten years, ending Dec. 31, 1868	15,536
Total increase for last five years	9,448
Average annual increase for the last ten years	1,654
Average number of miles in use for ten years, ending Dec. 31, 1868	43,123
Iron required in laying 43,123 miles, averaged at 90 tons per mile, 3,781,070 tons, which, at 67 per cent. for average annual wear, gives iron required for renewal of track	259,948
Iron required for the last ten years for renewing track	2,599,480
Iron required for the last ten years for new track, 16,536 miles, averaged at 90 tons per mile	1,587,456
Total consumption of railroad iron for the last ten years	4,186,936
Iron rails imported for ten years, ending June 30, 1868	1,015,685
Quantity of rails manufactured in the United States during the last ten years	3,171,251
Average domestic production per annum for the last ten years	317,125
Total average annual consumption for the last ten years	318,693
(About 62 per cent. of the consumption of rails is required for renewals, and 38 per cent. for new track.)	
Importation of rails for the year ending June 30, 1868	228,277
Production of American mills for the year ending Dec. 31, 1868	506,714
Increase of importations on average of ten years	126,709
Increase of domestic production on average of ten years	189,899
Net increase of consumption in 1868 upon annual average of the last ten years	316,298

It seems to be the impression, particularly among those whose observations do not extend beyond our great trunk lines, that the percentage of rails worn out during each year is much greater than that given above; but this cannot be the case unless all the estimates that have been made of the number of miles of railroad in the country have been greatly exaggerated. It must be remembered that, whilst many of the rails on main lines near our great railroad centres are worn out in a single year, there are thousands of miles of track in the Southern States and in the thinly settled portions of other sections that last over twenty years.

In England the actual waste of iron rails by grinding, oxidation, and loss is said to amount to 20,000 tons a year, whilst about 250,000 tons require to be taken up and re-rolled. As the number of miles of road there, including second track and sidings, may be safely put down at 23,000, it follows that the average wear and tear of track amounts to 10·36 per cent. per annum. Even in that country, where the destruction of track is so much greater than here, we are told that on some lines of light traffic rails frequently last twenty years, while on lines near London, which are under constant and heavy work, many miles of track require relaying in less than twelve months.—*The Iron Age (U.S.)*

#### EXTRACTING ALUMINIUM FROM ITS ORES.

An improved method of reducing aluminium from its salts by the admixture of hydrocarbons, and heating the mixture in a retort under pressure of hydrocarbon gas; the treatment of the product with zinc; and the production of alloys of aluminium by a special process, has been invented by Mr. A. L. FLEURY, of Boston, United States. In carrying out the invention, pure alumina (such as appears in nature or is artificially produced) is at first intimately mixed with a suitable hydrocarbon, such as gas-tar, resin, petroleum, or any other analogous substance, in sufficient quantity to produce with it a stiff paste. This paste, after having been made into small balls, is dried in the air or in a drying oven, and then charged into a strong retort, which is to be lined with plumbago, and heat applied to it. This retort must be of sufficient strength to stand a pressure of 25 or 30 lbs. to the inch while exposed to a red-heat, and be so arranged that by means of a safety-valve the necessary amount of hydrocarbon gas can be introduced into the retort among the heated mixture, and the pressure of from 20 to 30 lbs. to the inch maintained therein. To accomplish this, the hydrocarbon gas is evaporated by gentle heat from liquid hydrocarbon, and pumped by a force-pump into the retort or tube, and as the gas is consumed the supply is maintained at the requisite pressure by the pump. When such an arrangement cannot be obtained, he introduces a liquid hydrocarbon (he prefers the use of such as give off free carbon when passed through a red-hot porcelain tube—such, for instance, as crude petroleum or turpentine) into and among the heated mass, when, as the carbon is in its nascent state, and is brought in contact with the heated oxide or oxides, it causes their decomposition. Under the said circumstances, and while at a red-heat, a complete reduction of the aluminium compounds, ores, or salts takes place, and the metal remains as a spongy mass mixed with carbon in the tube or crucible. When cool the retort is opened, and the product re-melted in a covered crucible. To facilitate the re-melting metallic zinc may be added, and then after the aluminium has collected in the metallic zinc the latter is driven off by heat, and the pure aluminium is left in the crucible. The reduction of the metal is due to the action of the hydrocarbon under pressure and the presence of carbon in process of generation. The time for reducing 100 lbs. of alumina, earth, cryolite, or other compound wherein aluminium is contained should not require more than four hours, and where hydro-carbon gas can be obtained in a heated and compressed state the reduction takes place in a still shorter period. To produce aluminium alloys the respective metallic oxides can be mixed in the desired equivalents with the gas-tar, as above described, heated and reduced together, or the previously prepared spongy aluminium may be kept at the bottom of a crucible by means of a perforated diaphragm of plumbago, or other suitable refractory material, so as to prevent the aluminium from floating at the top of the crucible, and then it may be alloyed with the desired quantity of copper or other metal. Where copper is smelted the aluminium, either as sponge or metal, can be alloyed by means of a perforated ladle, which serves to convey the aluminium (which is of less specific gravity than copper) to the bottom of the copper furnace.

#### In the Court of the Vice-Warden of the Stannaries. Stannaries of Cornwall.

**IN THE MATTER OF THE COMPANIES ACT, 1862, and of the BOULET MINING COMPANY.**—Notice is hereby given, that all CREDITORS of the above-named company are REQUIRED, on or before Thursday, the 25th day of March inst., to SEND IN THEIR NAMES AND ADDRESSES, and the AMOUNTS and PARTICULARS of their SEVERAL CLAIMS on the said company, to WILLIAM MICHELL, Esq., the Registrar of the said Court, at Truro.—Dated Truro, March 8, 1869.

#### In the Court of the Vice-Warden of the Stannaries. Stannaries of Cornwall.

**IN THE MATTER OF THE COMPANIES ACT, 1862, and of the CARNYORTH MINING COMPANY.**—By direction of His Honour the Vice-Warden, Notice is hereby given, that on the 24th day of March instant, at Eleven o'clock in the forenoon, at the Registrar's Office, at Truro, in the county of Cornwall, this Court will PROCEED to MAKE a CALL of ONE POUND PER SHARE on all the contributors of the above-named company under class A. All persons interested therein are entitled to attend at the time and place aforesaid to offer objections to such call.

Dated Truro, March 11th, 1869. WILLIAM MICHELL, Registrar.

#### In the Court of the Vice-Warden of the Stannaries. Stannaries of Cornwall.

**IN RE WHEAL TRELAWNY MINE.**  
**TO BE SOLD,** pursuant to an Order made in a Cause of Lavington v. Law and another, dated the 7th day of January last, at the Registrar's Office, at Truro, on Wednesday, the 24th day of March instant, at Twelve o'clock at noon precisely; the

5 (fourth) PARTS or SHARES of the defendant, Samuel Law; and the 8 (fourth) PARTS or SHARES of the defendant, Hugh Henderson; Of and in the said MINE.

HODGE, HOCKIN, and MARRACK, Truro  
(Agents for Tufnell Southgate, 7, King's Bench Walk, Temple, London, Plaintiff's Solicitor).

Dated Registrar's Office, Truro, March 10th, 1869.

#### IMPORTANT SALE OF MINE AND OTHER SHARES.

**MR. W. HOSKEN RICHARDS** has received instructions from the Trustees of the late R. V. DAVY, Esq., to submit for SALE, BY AUCTION, at his Auction Rooms, Nos. 54 and 55, Causeway-head, Penzance, on Thursday, the 18th March, 1869, at Eleven o'clock, in the forenoon, the under-mentioned VALUABLE MINE and other SHARES—viz:—

10% (300ths) in BOTALLACK MINE.  
14% (1107ths) in BALLESWIDEN MINE.  
2% (191ths) in BOSWEDDEN MINE.  
37% (3000ths) in NORTH LEVANT MINE.  
2% (242ds) in SPEARN MOOR MINE.  
4 (940ths) in ST. IVES CONSOLS MINE.  
1 (236th) in ST. IVES CONSOLS MINE.  
1% (54ths) in TRELAWN CONSOLS MINE.  
8% (1024ths) in WHEAL KITTY (Leant).  
10 (728ths) in WHEAL MARGERY.  
1% (80th) in WHEAL OWLES.  
1% (1120th) in PROVIDENCE MINES.  
17 (156ths) in DING DONG MINE.  
2% (165ths) in LEVANT MINE.

5% SHARES in the CORNWALL FISHING COMPANY.  
3 SHARES in the VICTORIA FISHING COMPANY.  
7 SHARES in the RESOLUTE FISHING COMPANY.  
2 SHARES in the INDUSTRY FISHING COMPANY.  
1 SHARE in the FRIENDS and DELIGHT FISHING COMPANY.  
2 SHARES in the WESTERN FISHING COMPANY.  
2 SHARES in the PENBERTH FISHING COMPANY.

Further particulars of the Auctioneer, 54 and 55, Causeway-head, Penzance. Dated 2d March, 1869.

#### VERY VALUABLE LEASEHOLD COLLIERIES, ABERDARE, GLAMORGANSHIRE.

**MESSRS. FULLER, HORSEY, SON, AND CO.** are instructed to SELL, BY AUCTION, at the Mart, Tokenhouse-yard, London, E.C., on Wednesday, March 24, at Two o'clock precisely, the very valuable LEASEHOLD COLLIERIES and other MINERAL PROPERTIES of the **ABERDARE MERTHYR STEAM COAL COMPANY (LIMITED)**, Situated at HIRWAIN COMMON, in the parish of ABERDARE, GLAMORGANSHIRE, about two and a half miles from the town of Aberdare, and in direct railway communication with the shipping ports of Swansea, Cardiff, and Newport.

The property comprises numerous SEAMS or VEINS of COAL of the thickness in the aggregate, of 32 ft. 7 in., together with IRONSTONE and FIRE-CLAY, extending under a tract of land of about 624 acres; and there are underlying the entire area NINE VEINS or SEAMS of COAL, known as the Driver Vein, the Upper Four Feet, the Six Feet, the Pit or Yard Vein, the Nine Feet, the Dirty Vein, the Little Vein, the Old Vein, and the Goudder. The five first named have been worked in these collieries, and the remainder are known to exist, as the last named is worked at Cyfartha. The minerals include the well known "Upper Four Feet," being the celebrated seam of the Aberdare Steam Coal, and the other seams are well known and approved, and are won by levels or drifts, one of which cuts most of the seams; the other works the "Driver Vein" and Upper Four Feet; the roofs are good, the workings free from gas, and a drift has been formed from east to west along the entire range, which effectually drains all workings to a certain level without pumping.

The workings are equal to an out put of from 60 to 80 tons of coal daily, but the quantity at present raised does not exceed 300 tons daily, in consequence of the existing dullness of trade. The ironstone is won with the coal, and at the present rate of working 150 tons per month are raised. The quality is good, equal to from 35 to 35 per cent.

The collieries have been opened under careful supervision, and the whole of the plant and appliances are of the best order. The new drift is worked by two powerful horizontal steam-engines, with steel wire-ropes and winding gear, the trams are conveyed on a trolley or wagon down a new self-acting incline, having two lines of permanent rails, about 650 yards long, from the mouth of the pit to the sidings of the railway.

The long range level is worked in a similar way. The coals are passed through self-registering screens, of the most approved modern construction, into the railway trucks. The cost of the coals, including royalties and all mining charges, does not average more than 5s. 4d. per ton.

The buildings include steam-engine house, range of stone-built stables for 40 horses, saddlers' shop, hay and chaff store, offices for manager and clerks, carpenter's shop, two smiths' shops, small brick lodge, sheds over incline, drums and coal screens, weigh house, wheelwrights' shop, store room, ventilating shaft and furnace. There are two reservoirs on the side of the mountain, fed by natural springs, that afford a plentiful supply of good water for the purposes of the colliery.

The present company have expended upwards of £50,000 in the purchase and development of this property. The whole of the seams are now being worked at adjoining collieries, and have been thoroughly proved, and their character and value ascertained, by the present manager, who has also, from a recent survey, ascertained the exact quantity of unworked coal; indeed, the colliery may not inaptly be termed, as to most of the seams, a maiden colliery; and as the coal can be cheaply won, with ordinary management, a most remunerative purchase may be made by those seeking investment. Held under leases, which may be seen at the offices of the solicitors.

The works may be inspected on application to Mr. THOMAS DAVIES, the manager, at the works. Particulars, with plans and other information, may be obtained of Messrs. MINET and SOUTHERN, Solicitors, 3, New Broad-street, London, E.C.; and of Messrs. FULLER, HORSEY, SON, and Co., Auctioneers, 11, Billiter-square, E.C.

Particulars and plans may also be had at the principal hotels at Cardiff, Newport, Swansea, Liverpool, and Manchester; and at the Auction Mart, London.

#### TO RAILWAY COMPANIES, CONTRACTORS, AND OTHERS.

#### IN LIQUIDATION.

#### Auction Sale of the Newry and Greenore Railway Plant.

**THERE WILL BE SOLD, BY AUCTION, AT NEWRY, IRELAND,** commencing on Tuesday, the 23d of March next, at Twelve o'clock, noon, the ENTIRE PLANT of the projected NEWRY AND GREENORE RAILWAY, consisting of 1506 tons of new flange rails, 70 lbs. per yard, with the necessary fish plates, fish bolts, fang bolts, and wood screws; 250 tons of contractors' rails, flange pattern, 41 lbs. per yard, in good order; 331 earth-end-tipping wagons; 1492 wood sleepers; 32 contractors' carts, timber wagons, &c.; 262 barrows; 31 sets of chain and cart harness, in excellent condition; striking hammers; quarry sledges; masons' hammers; ballast hammers; quarry picks; shovels; barrows; miners' picks; earth picks; miners' and earth picks; cranks; quarry skips; drums, uprights, and shafts; pumps; blow Georges; covers and blades; air tubing; funnel skips; pile-driving machines; pile-driving rams; water tanks; tool boxes; horse boxes and wash troughs; chaff-cutting machines; oat crushers; bean crushers; grooving and slaking benches; shear legs and machinery; centre rib and bridge centres; elliptical and semi-circular ribs; masons' levels; field gates, rails, ladders, rods, mallets, cart felts and spokes; sundry mortar hods and boxes, and screens, tar tanks, grad-stones, on stands; wooden hut fittings; smiths and portable hammers; anvils, vices, &c.; tunnel shaft covers and skip trolleys; several barrels and cans of best wagon grease; about 1000 planks, &c.; wagon mountings, axles, sheeting, &c.; wood spouting, tressels, and tools; scope and rakes; horse boxes; a large number of bridles and hand cuffs, temporary dogs, cast-steel jumpers, new and old ropes, signal lamps, chains, iron bolts, weighing machines and screw jacks, equal to new; telegraph construction implements, with a considerable quantity of new and old iron. Also, LOCOMOTIVE and PORTABLE ENGINES; a patent adzing and boring machine and sundry travelling cranes and crab winches; railway punching machines, &c.; with the wooden houses and sheds on the premises.—Catalogues, containing full particulars, with the order of sale, to be had in London, at the office of the MINING JOURNAL; Liverpool, Liverpool Mercury; Manchester, Guardian Newspaper; Dublin, General Advertiser; Glasgow, North British Daily Mail.

Any further information may be had on application to—

JOSEPH LOUGHRAN, Auctioneer, Newry.

#### TO CONTRACTORS AND OTHERS.

#### SURPLUS STOCK OF STEAM MACHINERY.

**TO BE SOLD, BY AUCTION,** at Banbury, by Messrs. CLARKE and BARROWS, on Easter Tuesday, March 30, 1869, at Eleven o'clock, about FORTY high-class new and secondhand PORTABLE STEAM ENGINES, from 3 to 25-horse power. A number of very superior THRESHING MACHINES, CULTIVATING APPARATUS, SAW TABLES, MORTAR MILLS, AGRICULTURAL IMPLEMENTS, &c. For catalogues of sale, apply to Messrs. BARROWS and STEWART, Engineers, Banbury; or to the Auctioneers, No. 38, Cannon-street, Birmingham.

#### TO ENGINEERS, AND OTHERS.

#### TO BE SOLD, BY PRIVATE TREATY.

**MESSRS. ORMEROD** are willing to DISPOSE OF their PATENT RIGHT in the **PATENT SAFETY LINK,** FOR THE PREVENTION OF ACCIDENTS BY OVERWINDING, &c.

The PATENT SAFETY LINK is extensively in operation in many of the largest collieries, and has been the means of preventing several accidents.

For terms, and to treat for the same, apply to—

MR. EDWARD ORMEROD, CHOWBENT, NEAR MANCHESTER.

#### TO CAPITALISTS AND OTHERS FAMILIAR WITH COPPER MINING.

**RICH VEINS OF COPPER ORE** (Sulphuret and Grey) have been FOUND on the BANKS of the NIPISQUIT RIVER, Province of NEW BRUNSWICK. The grey ore yielded on analysis in England 60 per cent. of copper. The veins are from a few inches to 2½ feet wide. The Harbour of Bathurst is but thirteen miles distant, and the tract of the Intercolonial Railway, now in course of construction, about six.

The proprietor of the land, being unacquainted with mining operations, is DESIROUS either TO SELL the PROPERTY on moderate terms, or TO JOIN an EXPERIENCED PARTY or COMPANY in WORKING these LODES. Indications of other mineral lodes are to be found at various places within a circuit of 15 to 20 miles, chiefly in wild Crown lands, the right to which might be obtained on easy terms, if early steps be taken with that object, before they attract more general attention.

Further information may be obtained on application to HENRY W. BALDWIN, Esq., Bathurst, New Brunswick. Bathurst, N.B., 5th February, 1869.

#### A GOOD COLLIERY TO BE DISPOSED OF, CHEAPLY.

THE COLLIERY is now at WORK, with a PAIR of PITS, and the works opened into the Ten Yard coal.

It is situated at WEDNESBURY, in STAFFORDSHIRE, within a few yards of the canal. Land sale very good.

The Advertiser knows the property well, and has confidence in recommending it to anyone.

Another COLLIERY, in the same neighbourhood, FOR SALE, with THREE PITS, and 48-horse ENGINE, containing most of the MEASURES of IRONSTONE and COAL (chief coal excepted).

Any buyer acting promptly may have these properties to great advantage, and no doubt an immediate large profit would be returned to the buyer.

Scarcely any fresh capital is required to develop the first-mentioned colliery. Apply personally, or by letter, to Mr. GRIFFITHS, 75, Old Broad-street, London.

#### NORTH WALES—QUEEN'S FERRY, FLINT. CLOSE TO THE RAILWAY.

#### TO BE SOLD OR LET, DESIRABLE FREEHOLD MANUFACTURING PREMISES, WITH ENGINE-POWER AND LAND.

A plot of about one acre, with substantial factories, engine-house chimneys, stable, outbuildings, and sheds, suitable for any manufacturing purpose. ENGINE of most recent construction, and BOILER nearly new.

For further particulars, apply to JOHN TEMPLE, 32, Radcross-street, Liverpool.

#### ELLENBOROUGH COLLIERY, NEAR MARYPORT.

**TO BE LET,** for a term of 21 years, from June 1, 1869, the COAL MINES under the MANOR of ELLENBOROUGH, comprising THREE HUNDRED AND FIFTY ACRES, or thereabouts.

The coal field is in full working order, by means of shafts sunk to the Ten-quarterm Seam, and by drifts and staple-pits to three other very excellent seams of coal.

The colliery is within a very short distance of the port of Maryport. The coal is shipped at a small nominal cost; it is taken over the estate by means of private tramways to the docks, thereby giving it great advantages at market in point of cheapness, compared with all other coal in the neighbourhood.

There is a considerable quantity of coal adjoining the above manor, which, by arrangement, can be worked by means of shafts in Ellenborough Manor, as has been done hitherto.

The works are substantial and permanent, and the colliery is equal to a large output, and, in addition to an excellent trade with Ireland, it has a good local sale business.

Iron works are now established close to Maryport, in addition to those at Workington, five miles off, thus giving an excellent market close at hand both for coal and coke.

It is seldom that such a thoroughly good commercial undertaking can be met with, all being in good order and ready for work, at a comparatively small outlay of capital.

For further particulars, apply to Mr. JAMES THOMSON, Sether Hall, Maryport.

**TO LET.—A COAL FIELD** in the EASTERN DIVISION of the COUNTY of DURHAM, containing about ONE THOUSAND ACRES of UNWROUGHT COAL, adjacent to a current-going colliery in that district. For further particulars, apply to "G. G. S.," Post Office, Sunderland. Bridge Village, Durham.

#### SITES FOR MANUFACTORIES AT SEAHAM HARBOUR.

**TO BE LET, SITES FOR MANUFACTORIES AT SEAHAM HARBOUR.**—Seaham Harbour offers every advantage to Manufacturers desirous of ESTABLISHING WORKS. GLASS, IRON, CEMENT, CHEMICAL, and PATENT FUEL WORKS have special facilities offered to them,—ground rents being low, and coals of the best quality, obtainable from pits adjacent to the town, at a moderate price.

There is excellent shipping accommodation at the docks, and sand, chalk, &c., are brought to the harbour as ballast by the shipping at nominal prices. Railway access to all parts of the United Kingdom.

Refuse and ballast can be tipped into the sea at no cost, and without liability to damages for pollution of rivers, and there is an unlimited supply of pure water from the limestone springs.

Applications for sites to be made to Mr. WILLIAM FORSTER, Londonderry Offices, Seaham Harbour.

**TO LET, A VALUABLE COAL MINE.**—Apply to Mr. GEORGE DAVIDSON, Mawley, Cleobury Mortimer, Shropshire.—Dec. 12, 1868.

**TO BE LET, A SLATE AND SLAB QUARRY,** with PLANT, and good water power. Distance—by good road from a shipping port, 3½ miles; and a railway station, 2½ miles.

As a speculation, offering quick returns from a small outlay, this can confidently be recommended.

For further particulars, and to view the premises, apply to Mr. ROBERT OWEN JONES, Land Agent, Pwllheli, North Wales.

#### FOR SALE.—THE UNDERMENTIONED ENGINES AND WATER WHEELS:—

ONE 60 in. cylinder ENGINE, 10 ft. stroke in cylinder, and 9 ft. in shaft; with TWO Cornish BOILERS, 10 tons each.  
ONE 56 in. cylinder PUMPING ENGINE, 9½ ft. stroke, equal beam; with TWO Cornish BOILERS.  
ONE 50 in. cylinder PUMPING ENGINE; with ONE BOILER.  
ONE 35 in. cylinder (beam) double-acting ENGINE, with pumping gear attached, 6 ft. stroke; with ONE 10 ton BOILER.  
ONE 30 in. cylinder (beam) double-acting ENGINE, with pumping gear attached, 9 ft. stroke; with ONE 10 ton BOILER.  
ONE 25 in. cylinder (beam) double-acting ENGINE, 6 ft. stroke; with ONE 10 ton BOILER.  
ONE 12 in. cylinder rotary STEAM ENGINE, with ONE 6 ton BOILER.

The whole of the above engines are in excellent condition, some being nearly new.

WATER WHEELS.  
ONE WATER WHEEL, 40 ft. diameter, and 8 ft. abrest.  
ONE ditto 60 ft. ditto 3½ ft. abrest.  
ONE ditto 50 ft. ditto 3½ ft. abrest.  
ONE ditto 35 ft. ditto 3 ft. 2 in. abrest.

The above wheels have cast-iron rings, sockets, and axles. Also, several Cornish CRUSHERS, of various sizes.

For further information respecting the above machinery, apply to W. MATTHEWS, Engineer, Tavistock.

Tavistock, Feb. 25, 1869.

#### TO IRONMASTERS, MILL MANAGERS, AND OTHERS.

**FOR SALE.**—A powerful BLOWING ENGINE, of superior construction, equal to new; steam cylinder, 33 in. diameter, 8 ft. stroke; blowing cylinder, 50 in. diameter, 2 ft. stroke. The above engine is by the well-known firm of Messrs. LOSE, WILSON, and BELL.

Particulars may be obtained by applying to Messrs. H. L. PATTINSON and Co., Felling Chemical Works, Gateshead-on-Tyne.

#### PARTICIPATION CHARENTAISE.

#### LA GRANDE MARQUE COGNAC.

V. JOUANNET, Managing Director.

LONDON OFFICES.—22 and 23, GREAT TOWER STREET.

Under the management of Mr. E. VIGNIER, of COGNAC.

THE LARGEST HOLDERS IN COGNAC OF THE FINE VINTAGE OF 1865, 1,200,000 GALLONS.

Equal to the best brands imported since the beginning of 1866.

THEY CHALLENGE COMPARISON.

Also of the very old Brandy of the first growths and of the last vintage, 18

To be obtained of all wine and spirit merchants, and brokers.



**RAILWAY WAGON WORKS, BARNSELY.**  
**MESSRS. G. W. AND T. CRAIK**  
 ARE PREPARED TO  
**SUPPLY COAL AND COKE WAGONS**  
 OF EVERY DESCRIPTION,  
 Either for cash, or by deferred payments through wagon-leasing companies.  
**WAGONS PROMPTLY REPAIRED.**

**TANK LOCOMOTIVES,**  
 FOR SALE OR HIRE.  
**HENRY HUGHES AND CO.,**  
 LOUGHBOROUGH.

**THE BEVERLEY IRON AND WAGON COMPANY**  
 (LIMITED),  
**MANUFACTURERS OF RAILWAY WAGONS, WHEELS**  
 AXLES, LORRIES, CARTS, WOOD WHEELS, &c.,  
 IRONWORKS, BEVERLEY, YORKSHIRE.

**WIRE ROPE TRANSPORT.**  
**THIS SYSTEM** is applicable to the TRANSPORT OF MINERALS, of AGRICULTURAL PRODUCE, and of MERCHANDISE in general. Its cost per mile is less than that of any known description of road or way, commencing at £250 per mile. It can be carried over any description of country without more engineering work than is necessary in constructing a telegraph line. It is admirably suited for establishing BRANCH GOODS LINES and EXTENSIONS in NEW COUNTRIES. Its working cost little exceeds that of regular railways, and is not one-third that of the common road transport. A line of three miles can be seen in operation. **M. BEALE, Secretary.**  
 The Wire Tramway Company, 21, Gresham-street, E.C.

**F. N. GIBBORNE'S PATENT MECHANICAL**  
**BALANCE-WEIGHT SIGNALS FOR MINES, &c.**

**THESE SIGNALS** supply a want long felt in giving INSTANT COMMUNICATION IN MINES at SEVERAL PLACES at the SAME TIME without the aid of electricity, but by a single rod or chain; so that a degree of safety is ensured hitherto unknown.

The price is also very low, and the mechanism so simple that any ordinary mechanic could put it in order if out of adjustment.

The same patent, as applied to ships, has received the approval of the Chief Engineer, Chatham Dockyard (vide Times, Aug. 13, 1868).

**MR. GEORGE B. JERRAM, ENGINEER, WASHINGTON BUILDINGS,**  
 BRUNSWICK STREET, LIVERPOOL.

N.B.—Mr. JERRAM is now visiting the different mines with working models.

**STEAM ENGINES & ECONOMY OF FUEL.**

**B. DONKIN & CO.**

Are now making their PATENT HORIZONTAL STEAM ENGINES, by which great ECONOMY OF FUEL is attained, the price being at the same time very moderate for this class of engine.

These engines have been accurately tested as to consumption of fuel, and have been sufficiently long at work to prove their durability and efficiency.

Employers of steam power can have their engines easily tested by a simple and inexpensive apparatus, by which the comparative consumption of steam is ascertained, irrespective of the difficult questions of evaporative power of boilers and quality of fuel.

Apply to—

**B. DONKIN & CO., ENGINEERS' WORKS,**  
 BERMONDSEY, LONDON, S.E.

**NICKEL AND COBALT REFINING, AND GERMAN SILVER**  
 WORKS, 16, OZZELL STREET NORTH, BIRMINGHAM.

**STEPHEN BARKER** begs to inform the Trade that he has the following articles for sale:—REFINED METALLIC NICKEL, REFINED METALLIC BISMUTH, OXIDE OF COBALT, GERMAN SILVER—IN INGOTS, SHEET, WIRE, &c. NICKEL AND COBALT ORES PURCHASED.

**GOLDENHILL, COBALT, NICKEL, COLOUR, BORAX**  
 AND CHEMICAL WORKS,

NEAR STOKE-UPON-TRENT, STAFFORDSHIRE.  
**JOHN HENSHALL WILLIAMSON, MANUFACTURER AND REFINER,**  
 Purchaser of Borate of Lime and Thical.

**SAFETY FUSE.**—Messrs. WILLIAM BRUNTON AND CO., PENHALLICK, POOL, near CAMBORNE, CORNWALL, and BRYMBO, near WREXHAM, MANUFACTURERS OF FUSE, of every size and length, as exhibited in the Great Exhibition of 1851, and supplied to the Royal Arsenal at Woolwich, the Arctic Expedition, and every part of the globe.

For the convenience of their customers and others in the North, W. BRUNTON and Co. have recently erected a branch manufactory at Brymbo, near Wrexham, where, as at Cornwall, they are at all times PREPARED TO EXECUTE UNLIMITED ORDERS FOR SUPPLYING FUSE, upon warrant that it will prove equal to, if not better than, any to be procured elsewhere.

**COMPENSATION IN CASE OF INJURY,**  
 AND A FIXED SUM IN CASE OF DEATH,  
 CAUSED BY ACCIDENT OF ANY KIND,  
 May be secured by a policy in the

**RAILWAY PASSENGERS' ASSURANCE COMPANY.**  
 An annual payment of £3 to £6 5s. insures £100 at death, and an allowance at the rate of £6 per week for injury.

**RAILWAY ACCIDENTS ALONE**  
 May be provided against by Insurance tickets for single or double journeys.

For particulars, apply to the Clerks at the Railway Stations, to the Local Agents, or at the

**OFFICES, 64, CORNHILL, and 10, REGENT STREET, LONDON.**  
**WILLIAM J. VIAN, Sec.**

**ASSAY OFFICE AND LABORATORY,**  
 No. 2, CROWN CHAMBERS, CROWN COURT,  
 THREADNEEDLE STREET.

CONDUCTED BY **W. T. RICKARD, F.C.S., &c.**  
 (Late MITCHELL and RICKARD).  
 Assays and analyses of every description of mineral and other substances, manures, &c.  
 Gentlemen going abroad for mining purposes instructed in assaying, and the most improved methods of reducing gold, silver, and other metals.  
 MINING PROPERTIES INSPECTED AND REPORTED ON.

Now ready, price 2s.  
**THE NORTH SOMERSETSHIRE COAL FIELD.**—  
 By SEWARD W. BRICE, B.A.

OPINIONS OF THE PRESS.—"A work of great practical value to all interested in the development of a great South England Coal Field."—*Mining Journal*. "The task of estimating the quantity of coal still remaining in the North Somersetshire Coal Field is very difficult. Here we have a very troubled field of geological enquiry, and of great perplexity and expense to the coal miner. Mr. Brice understands his subject, and his style of writing is clear and interesting."—*Colliery Guardian*.  
 London: BEMROSE and LOTHIAN, 21, Paternoster-row; or post free from the Gazette Office, Tiverton.

**HOGG'S GUIDE TO THE IRON TRADES.**—  
 Fourth edition, eighth thousand, price 10s.

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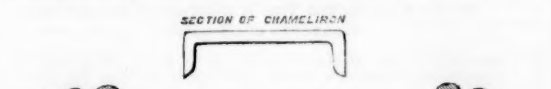
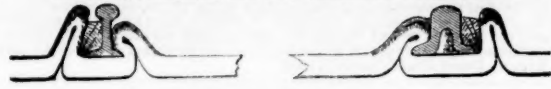
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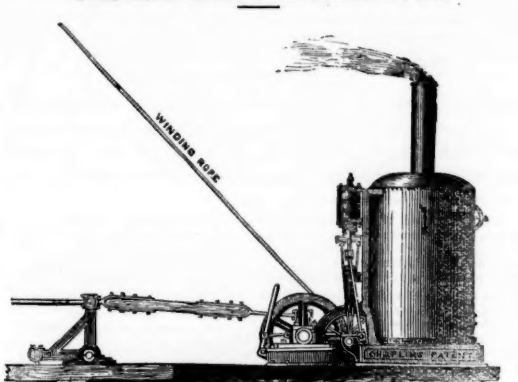
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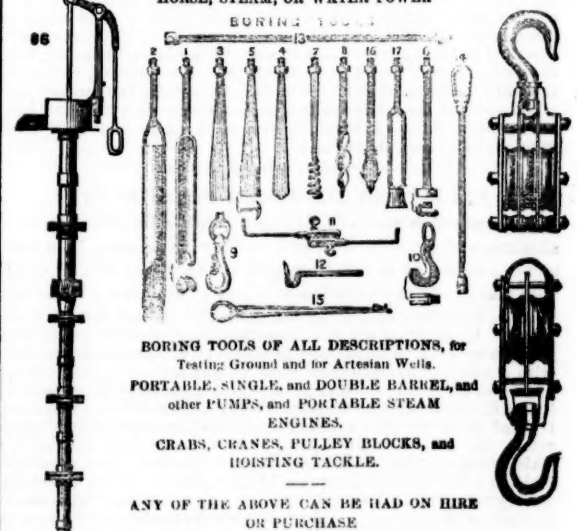
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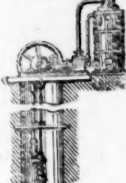
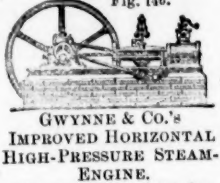
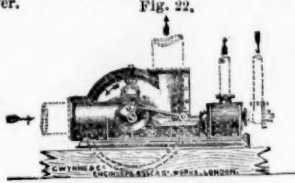
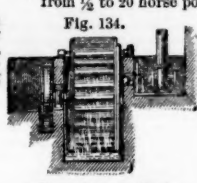
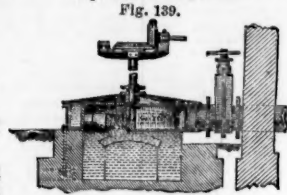
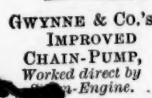
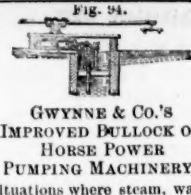
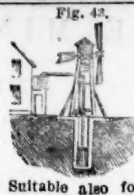
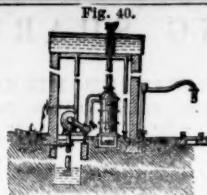
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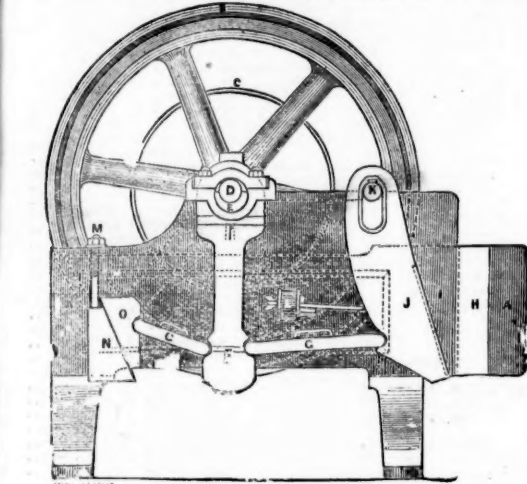
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## CAUTION!

## BLAKE'S PATENT STONE BREAKER,

*In Chancery.*  
**BLAKE v. ARCHER, NOVEMBER 12, 1867.**  
His Honour the Vice-Chancellor WOOD having found a VERDICT in FAVOUR of the PLAINTIFFS in the above Cause, establishing the VALIDITY of BLAKE'S PATENT, and made a DECREE for an INJUNCTION to RESTRAIN the DEFENDANTS, Messrs. THOMAS ARCHER and SON, of Dunston Engine-Works, near Gateshead-on-Tyne, from INFRINGING such PATENT, and ordering them to pay to the Plaintiffs the costs of the Suit.  
ALL PERSONS are hereby CAUTIONED against MANUFACTURING, SELLING, or USING any STONE BREAKERS similar to BLAKE'S, which have not been manufactured by the Plaintiffs. Application will forthwith be made to the Court of Chancery for INJUNCTIONS AGAINST ALL PERSONS who may be found INFRINGING BLAKE'S PATENT after this notice.

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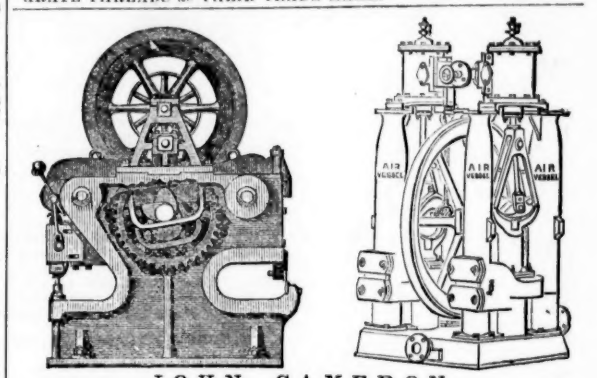
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## THE MINING SHARE LIST.

## BRITISH DIVIDEND MINES.

Shares.	Mines.	Paid.	Last Pr.	Business.	Total divs.	Per share.	Last paid.
1500	Alderley Edge, c. Cheshire*	10 0 0	—	—	10 6 8	0 5 0	Jan. 1869
200	Botallack, c. St. Just	21 5 0	250	200 250	528 5 0	10 0	Feb. 1869
4000	Brookwood, c. Buckfastleigh	1 11 0	—	—	0 12 6	0 2 6	Ang. 1868
1000	Bromford, c. Cardigan	12 0 0	163	—	10 17 0	0 10 0	Jan. 1869
5094	Bwlch Consols, s-l, Cardigan	4 0 0	—	—	0 8 0	0 5 0	June 1868
6400	Cashwell, c. Cumberland	2 10 0	—	—	0 3 0	0 1 6	Ang. 1868
216	Cargill, s-l, Newlyn	15 5 7	—	—	15 15 0	0 10 0	Jan. 1869
1280	Chanticleer, c. Illogan	0 7 8	—	—	0 1 0	0 0 6	Nov. 1868
2450	Cook's Kitchen, c. Illogan	19 14 9	15	113 14 9	1 17 0	0 5 0	Jan. 1869
509	Creechbrow and Penkell, t	—	—	—	2 5 0	1 5 0	April 1868
867	Cwm Brf'n, c. Cardiganshire*	7 10 0	—	—	29 13 0	0 10 0	Jan. 1869
128	Cwynystwyth, c. Cardiganshire	60 0 0	—	—	385 10 0	2 0 0	Feb. 1869
280	Derwent Mines, s-l, Durham	300 0 0	—	—	117 0 0	2 10 0	July 1868
1024	Devon Gt. Consols, c. Tavistock†	1 0 0	—	280 300	1124 0 0	4 0 0	Jan. 1869
625	Ding Dong, c. Gwent	49 14 6	—	—	0 10 0	0 10 0	Sept. 1867
358	Dolcoath, c. t, Camborne	128 17 6	550	525 575	874 10 0	0 10 0	Feb. 1869
6144	East Caradon, c. St. Cleer	2 14 6	—	8 8 1/2	14 11 6	0 2 0	July 1867
300	East Darren, c. Cardiganshire*	32 0 0	—	—	164 10 0	2 0 0	Feb. 1869
128	East Pool, t, c. Pool, Illogan	24 5 0	—	—	457 10 0	5 0 0	Mar. 1869
1908	East Wheel Lovell, t, Wendron	3 9 0	10	8 3/4	4 11 6	0 10 0	Jan. 1869
280	Foxdale, t, Isle of Man*	25 0 0	—	—	72 10 0	0 10 0	Jan. 1869
5000	Frank Mills, t, Christow	3 18 6	3 3/4	3 3/4	3 9 6	0 4 0	Feb. 1869
2850	Gawton, c. Tavistock	3 10 6	—	—	2 3 0	0 3 0	Jan. 1869
16000	Great Laxey, t, Isle of Man*	4 0 0	20	19 20	9 15 0	0 10 0	Dec. 1868
3000	Great Northern Manganese*	5 0 0	—	—	—	5 p.ct.	July 1868
5908	Great Wheel Vry, t, c. Helston†	40 0 0	16 1/2	14 15	13 16 0	0 5 0	Dec. 1868
1024	Herodfoot, t, near Liskeard†	8 10 0	45	43 45	49 10 0	1 10 0	Feb. 1869
165	Levant, c. t, St. Just	10 8 1	—	—	1099 0 0	4 0 0	Jan. 1869
400	Lisburne, t, Cardiganshire	18 15 0	—	—	512 0 0	1 10 0	Jan. 1869
3000	Mace-y-Safn, t, Flint*	20 0 0	—	—	4 0 0	0 5 0	Oct. 1868
3000	Marke Valley, c. Caradon	4 10 6	9	8 1/2	4 19 0	0 5 0	Jan. 1869
1800	Miners' Boundary, t, Wrexham*	1 0 0	—	—	0 13 0	0 2 0	Mar. 1866
20000	Miners' Mining Co. Wrexham*	25 0 0	—	—	248 13 6	5 0 0	Feb. 1869
20000	Mining Co. of Ireland, c. t, c. l.	7 0 0	11 1/2	11 1/2	—	9 p.ct.	July 1868
5000	Mynydd Iron Ore*	3 5 0	—	—	0 11 6	0 3 0	Feb. 1869
200	Parys Mines, c. Anglesey*	50 0 0	—	—	162 10 0	2 10 0	Aug. 1868
5000	Pennalls, t, St. Agnes	3 0 0	—	—	0 2 6	0 2 6	Jan. 1869
12800	Prince of Wales, t, Calstock	0 12 6	1 1/4	—	0 8 6	0 1 0	Nov. 1868
1120	Providence, t, Uney Lelant†	10 6 7	40	38 40	86 13 6	1 0 0	Dec. 1868
512	South Caradon, c. St. Cleer†	1 0 0	—	860 380	607 10 0	5 0 0	Jan. 1869
6000	South Darren, c. Cardigan	3 6 0	—	—	0 14 6	0 1 6	Feb. 1869
937	South Wh. Croft, c. Illogan	24 10 0	—	13 14	1 10 0	0 10 0	Feb. 1869
496	So. Wh. Frances, c. Illog. t	18 19 9	17 1/2	16 17	374 13 6	1 0 0	Mar. 1868
508	Summer Hill, t, Mold	3 18 6	—	—	2 5 6	0 5 0	Feb. 1868
6000	Tincroft, c. t, Pool, Illogan†	9 0 0	19	18 18 1/2	20 11 0	0 10 0	Mar. 1869
2000	Trumpet Cons., t, Helston	11 10 0	20	19 20	8 0 0	0 10 0	Jan. 1869
3000	W. Chiverton, t, Perranzabuloe†	10 0 0	63	61 1/2	35 7 6	2 0 0	Feb. 1869
5000	West Godolphin, t, c. Bude	1 0 0	—	—	0 10 0	0 2 0	Dec. 1867
400	W. Wheel Seta, c. Camborne†	47 0 0	210	200 210	632 0 0	6 0 0	Feb. 1869
512	Wheel Basset, c. Illogan	5 2 6	75	70 75	682 10 0	1 0 0	June 1868
1024	Wheel Friendship, c. Tavistock	20 0 0	—	—	300 10 0	0 10 0	Nov. 1866
512	Wheel Jane, s-l, Kea	10 15 0	50	45 50	21 0 0	2 0 0	Feb. 1869
4295	Wheel Kitty, t, St. Agnes	5 4 6	4 1/2	—	3 13 0	0 2 0	Nov. 1868
1024	Wheel Mary Ann, t, Menhenlot†	8 0 0	20	19 20	67 15 0	0 17 6	Mar. 1869
80	Wheel Owles, t, St. Just†	70 0 0	—	—	403 3 0	52 10 0	Feb. 1868
396	Wheel Seta, c. Camborne	58 10 0	75	70 75	284 15 0	2 0 0	Feb. 1868
3000	Wheatsell Lead, Gwernap†	5 0 0	—	—	1 0 0	0 10 0	Dec. 1867
17000	Wicklow, c. t, Wicklow	2 10 0	—	12 1/2	49 10 0	0 5 0	Oct. 1868

## FOREIGN DIVIDEND MINES.

Shares.	Mines.	Paid.	Last Pr.	Business.	Total divs.	Per share.	Last paid.
35000	Alamillos, t, Spain*	2 0 0	2	1 1/2	0 6 6	0 2 0	Mar. 1869
20000	Australian, c. South Australia†	7 0 0	—	12 1/2	3 17 6	0 15 0	Nov. 1868
30000	Central American Association†	1 10 0	—	—	—	—	—
76102	Don Pedro North del Rey†	0 14 0	4 1/2	4 1/2	1 0 3	0 3 6	Nov. 1868
70000	English and Australian, c. t	2 10 0	—	—	—	0 9 6	Feb. 1869
24000	Fortuna, t, Spain*	2 0 0	—	2 1/2	1 14 10	0 3 0	Mar. 1869
20000	Gen. Mining Assoc., Nova Scotia†	20 0 0	—	—	23 10 0	0 15 0	June 1867
10000	Gonessa, t, *	5 0 0	—	—	10 p.ct.	—	Aug. 1868
60000	Kapunda Mining Co., Australia†	1 0 0	—	3 1/4	0 10 0	0 6 6	Nov. 1868
5000	La Victoria, t, Spain*	3 0 0	—	—	11 18 4	0 3 4	Mar. 1869
50000	Panitcha, c. Chili*	3 0 0	—	1 1/2	—	10 p.ct.	Yearly.
4000	Peel River Land and Mineral†	100 0 0	—	—	—	—	—
10000	Pontbanna, s-l, France†	20 0 0	—	10 1/2	5 6 2	0 19 7	Dec. 1868
100000	Port Phillip, c. Clunes†	1 0 0	—	1 1/2	1 1 6	0 1 6	Jan. 1869
120000	Scottish Australian Min. Co.†	1 0 0	1	—	10 p.ct.	—	Nov. 1868
11000	St. John del Rey, Brazil†	15 0 0	18	18 18 1/2	81 10 0	4 5 0	Dec. 1867
4000	Swedish Sulphur Ore*	2 10 0	—	—	7 1/2 p.ct.	—	Dec. 1868
12000	Unconquerful Mine, c. t	2 0 0	—	8 1/2	2 15 0	0 12 0	Nov. 1868
50000	Vicentia (London) £25000 pd.,	25000 12s. 6d. pd.]	—	—	0 9 7	0 7 0	July 1868
40000	West Canada Mining Co.*	1 0 0	—	—	0 19 6	0 2 6	May 1866

## NON-DIVIDEND FOREIGN MINES.

Shares.	Mines.	Paid.	Last Pr.	Bus. done.	Last Call.
50000	Anglo-Argentine, s, Argentine Republic*	1 0 0	—	—	—
100000	Anglo-Brazilian, s-l, *	0 10 0	—	1 1/2	—
12500	Anglo-Italian, g†	0 10 0	—	—	—
20000	Australian United, g	1 0 0	—	—	—
2464	Burra Burra, c. South Australia†	5 0 0	—	—	—
20000	Capula, s, Mexico*	1 17 6	—	—	—
30000	Chontales, g, s, Nicaragua†	5 0 0	—	1 1/4	—
12000	Cobre Copper Company, c. Cuba†	45 0 0	—	—	—
10000	Copiapu Mining Company, Chile†	10 0 0	—	—	—
10000	Copiapu Smelting, Chile†	10 0 0	—	—	—
300	Copper Miner, c. South Australia [150 £100 pd.,	150 £70 pd.]	—	—	—
15000	El Chico Silver Mining and Reduction Company*	5 0 0	—	—	—
10000	Fortune Copper Mining Co. of Western Australia	2 0 0	—	—	—
50000	Frontino and Bolivia, g, New Granada†	1 17 6	—	—	—
150000	General Brazilian†	0 10 0	—	—	—
50000	Great Northern, c. South Australia†	1 11 6	—	—	—
50000	Javali, g, Nicaragua	2 15 0	—	—	—
7927	Lastonian (Portugal)†	2 15 0	—	—	—
83640	Marquette, g, s, New Granada	1 0 0	—	—	—
12500	Nerbudda Coal and Iron, India†	6 0 0	—	—	—
51000	New Quebrada, c. Venezuela*	4 4 0	—	—	—
80000	Pestarena United, g, Italy†	2 17 6	—	1 1/4	—
10178	Rhenish Consolidated, † [6000 £25 pd., 4178 £2 10s. pd.]	—	—	—	—
100000	Rossa Grande, g, Brazil†	0 14 0	—	—	—
15000	San Pedro del Monte, s, Mexico*	0 0 0	—	—	—
10000	San Roque, l, Spain	5 0 0	—	—	—
50000	Sao Vicente, Brazil†	0 4 0	—	—	—
100000	Taquaril, g, Brazil†	0 7 6	—	—	—
43174	United Mexican, s, Mexico†*	28 5 2	—	—	—
5000	Val Antigua, g, Italy†	1 1 5	—	—	—
5000	Valassano, g, Italy†	8 0 0	—	—	—
45000	Victor Emanuel, c, Italy†	1 0 0	—	—	—
20000	Washoe, c, Nevada†	5 0 0	—	—	—
80000	Worthing, c, South Australia††	1 0 0	—	—	—
75000	Yorke Peninsula, South Australia	1 0 0	—	—	—
45000	Yudanamutana, c, South Australia††	3 0 0	—	—	—